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The impact of CSR disclosures on external finance: Evidence from China

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The impact of CSR disclosures on external finance: Evidence from China

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Abstract

This thesis examines the relationship between the dimensions of CSR disclosure and a firm's ability to access external financing in relation to the cost of equity and debt maturity in China. CSR disclosure affects shareholders' and lenders' perceptions regarding a firm's risk and performance through the contained CSR information and disclosure. According to stakeholder and agency theory, CSR influences the firm's value. Meanwhile, from a reporting and legitimacy perspective disclosure signals the firm's quality and legitimacy, which in turn affects its transparency and risk factors relating to survival and growth. These theories are considered through this thesis.

CSR disclosure is measured using a disclosure index developed based on the Global Reporting Initiative (GRI G4.0) and an index framework designed by Hummel and Schlick (2016) for a sample of Chinese firms listed on the China Security Index 300 in 2015. It is broken down into the level of disclosure (i.e., amount), information nature (i.e., positive/negative), information type (i.e., hard/soft), and the combination of information nature and type for investigation.

Two empirical studies have been conducted as follows. The first study examines how CSR disclosure affects the cost of equity, with the findings demonstrating that the level of disclosure is positively associated with the cost of equity. Shareholders are sensitive to both positive and negative information. They consider positive information as a signal of lower firm risk and reward firms with lower required returns, and vice versa. Compared to having very few or no responses to hard information, shareholders tend to be sensitive to soft information and, accordingly, equity costs are lower. Furthermore, it is evident that shareholders respond to both positive and negative information accordingly, regardless of information type. These findings suggest that CSR disclosure, which can be considered either as a whole or as comprising individual components, has different impacts on shareholders' perceptions of a firm's risk. They further support the argument of Plumlee et al. (2015) that

information nature and information type should be considered at the same time.

The second study investigates the impact of CSR disclosure on debt maturity and finds that the level of disclosure is positively associated with longer debt maturity. Furthermore, lenders are likely to respond to information content (either positive or negative). On the other hand, information type has different impacts on lenders' perceptions regarding a firm's risk: the disclosure of soft information leads to longer debt maturity, whereas hard information has no effect. Accordingly, lenders tend to respond to positive or negative information in soft form with shorter or longer debt maturity. These findings indicate that lenders consider the disclosure of positive soft information to be a signal of misappropriation of business resources and an agency problem. Firms disclosing negative soft information are seen to be trustworthy and conservative. Hence, it can be seen that CSR disclosure influences investors differently, not only based on the various dimensions of disclosure but also investment type.

In summary, the empirical findings are consistent with the arguments of both Clarkson et al. (2013) and Plumlee et al. (2015) that CSR disclosure is incrementally informative and information users should deconstruct it into different dimensions for better understanding. This thesis deepens our understanding about agency theory by analysing the agency problems among shareholder, lenders and managers,. Meanwhile, it takes CSR disclosure as a proxy of nonfinancial disclosure to advance our knowledge about nonfinancial disclosure and its impact on managing investors' perceptions about a firm's performance and risk. Meanwhile, this study adds to the existing literature about the reporting quality regarding information nature and information type and indicates that it may affect shareholders' and lenders' perception regarding a firm's risk differently. Last, it provides valuable insights about CSR issues in an emerging market.

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Declaration

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Chapter 1 Introduction

This thesis examines the relationship between Corporate Social Responsibility (CSR) disclosure and a firm's external finance in terms of the cost of equity and debt maturity in China. CSR is closely related to the concept of stakeholder management, which suggests a firm should be responsible for economic, social and environmental issues and that they should serve the needs of all stakeholders. CSR disclosure, containing a firm's CSR information, demonstrates the long-term commitment of the firm towards CSR activities (Lins et al., 2017; Ng & Rezaee, 2015; Servaes & Tamayo, 2013). CSR and CSR disclosure have been found to be a factor influencing external finance regarding the cost of equity and debt maturity through perceived firm risk (Benlemlih, 2015; Benlemlih et al., 2018; Dhaliwal et al., 2014). The cost of equity reflects shareholders' perception of firm risk, while debt maturity reflects lenders'. This thesis extends previous studies to investigate the impact of CSR disclosure on cost of equity and debt maturity in the Chinese context. This chapter provides a general overview of this thesis by highlighting research motivation, research background, research objectives and questions, research findings, and research contributions.

1.1 Research motivation

It is a universal phenomenon that firms experience difficulties in accessing external finance with low costs and advantageous contracting terms. In China, this is a particularly serious issue since the Chinese financial capital market is highly opaque meaning that there is limited information available (for more details, see section 3.4.2). Therefore, Chinese firms tend to experience more difficulties when attempting to demonstrate high quality and low risk compared to rivals. At the same time, the legal protection of investors in Chinese firms is weak because of incomplete legal system and weak legal enforcement (for more details, see section 3.4.1.2). Hence, in addition to financial disclosure, both parties, the firm and investors are eager for

another communication channel to reduce information asymmetry and improve transparency, so that the investor can better assess the firm's value and risk and the firm can gain better access to external finance in terms of financing cost and contracting terms.

For the reasons explained above, CSR disclosure has been adopted as a supplementary means of financial disclosure, allowing the firm to send signals to investors (for more details, see Chapter 3) regarding firm's value and risk. Thus, CSR disclosure influences investors' perceptions towards firm's risk and future performance through contained CSR information and increasing transparency (Benlemlih, 2015; Benlemlih et al., 2018; Cheng et al., 2014; Dhaliwal et al., 2014; Dhaliwal et al., 2011; El Ghoul et al., 2011; Plumlee et al., 2015). It is noticeable that the empirical findings of the relationship between CSR disclosure and external finance are not consistent. Most of the existing findings suggest CSR disclosure is negatively associated with a firm's risk, which lowers the cost of equity and leads to better contracting terms (Benlemlih, 2015; Clarkson et al., 2013; Dhaliwal et al., 2014; Dhaliwal et al., 2011). However, the findings of Clarkson et al. (2013) show that CSR disclosure has no impact on the cost of capital, while Richardson and Welker (2001) even find that they are positively related. Therefore, this thesis tries to reveal how CSR disclosure influences a firm's external finance through managing investors' perceptions about firm's future performance and risk.

Most existing studies in the fields of the impact of CSR disclosure on external finance focus on developed markets such as the U.S. and the U.K. (Benlemlih et al., 2018; Dhaliwal et al., 2014; Dhaliwal et al., 2011; Clarkson et al., 2013). Few explore the impact of CSR disclosure on financing costs and contracting terms in a developing economy (Ye & Zhang, 2011). Thus, it would be valuable to investigate how CSR disclosure influences external finance in China, the world's biggest emerging market. In order to provide a comprehensive view, this thesis contains three independent but closely connected empirical studies. The first two studies investigate the impact of

CSR disclosure on the cost of equity and debt maturity respectively in China, while the third focuses on the information components which are contained in CSR disclosure, and further examines the combined impact of information components on the cost of equity and debt maturity.

1.2 Research background

In contrast to most western countries, Chinese CSR and CSR disclosure are strongly influenced by the government (for more details, see section 3.4). After the economic reforms in 1984, due to a series of business scandals around environmental and social issues, the Chinese government developed a series of policies and regulations that enhance corporation governance, in order to balance economic growth and sustainability for the well-being of the Chinese public (Jiang & Kim, 2015). Accordingly, the improvement in social and environmental issues has been a part of officials' achievement assessment which influences officials' future promotions.

Nevertheless, Chinese firms suffering from high financing costs and strict contracting terms know that business resources are controlled by the government. Thus, they use CSR and CSR disclosure as strategic tools, helping officials to accomplish their jobs and pass their performance assessments (Lee et al., 2017; Jiang & Kim, 2015; Lee et al., 2017). In return, firms are rewarded with business resources, resulting in lower financing costs and better contracting terms.

Meanwhile, the Chinese security authority and banks directly link CSR and CSR disclosure with firms' external finance stream. The China Securities Regulatory Commission (CSRC) requires three types of firms to issue CSR disclosure mandatorily, including financial institutions, cross-listed firms and firms listed on the Shanghai Stock Exchange (SSE) Corporate Governance Composite Index. It also strongly encourages the rest of listed firms to disclose CSR information voluntarily. Furthermore, some Chinese banks only provide loans to firms with superior CSR performance, that disclose CSR information. Therefore, CSR and CSR disclosure is

very important to firms' access to external finance in the Chinese market. It is noticeable that, due to vague disclosure guideline, weak enforcement and mild punishment, all Chinese CSR disclosures are voluntary in nature. Moreover, the assurance of CSR disclosure in China is voluntary and very few firms employ a third party to assure CSR reports[1] (Liao et al., 2018).

To sum up, CSR and CSR disclosure are important to Chinese firms for obtaining supports from the government which influences firm's perceived risk reflecting on external finance regarding financing cost and contracting terms. More directly, CSRC and banks require and encourage firms which tend to access external finance to engage in CSR and issue CSR disclosures. Therefore, it is meaningful to connect CSR disclosure with the cost of equity and debt maturity in Chinese context and investigate their relationships.

1.3 Research objectives and research questions

This thesis primarily investigates how CSR disclosure influences investors' perceptions towards a firm's risk. It aims to extend the study of Plumlee et al. (2015), who take shareholders' perception to investigate how environmental disclosure influences firm value through the cost of equity and cash flows, in two aspects. First, in order to provide a comprehensive understanding about external finance, this thesis focuses on two main types of investors, namely shareholders and lenders. In China, equity and debt are two main resources from which a firm can obtain external finance (for more details, see Chapter 3, 4, 5). The differences between shareholders and lenders in relation to interest and risk may well lead to different responses in response to the same information, which is interesting and valuable to investigate. Second, this thesis adds on literature by focusing on information nature and type. Unlike many prior studies which investigate disclosure at aggregate level, this thesis breaks down

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[1] Liao et al. (2018) investigates the relationship between corporate board and the assurance of CSR disclosure in China. The y obtain the CSR disclosure assurance data from the CSMAR database and find during the period from 2008 to 2012, the number of CSR reports issued had increased from 178 to 605 and the number of CSR disclosure assurance has increased from 4 to 33. This suggests CSR disclosure assurance has increased sharply but still remains in a very low level.

disclosure into information components, namely information nature and information type, and further explores the interactions between them. It provides in-depth discussion about how information nature and type jointly affect investment decisions via perceived risk and future performance. Third, this thesis tries to provide a broad view about business ethics by focusing on CSR disclosure, including both social and environmental issues. Therefore, this thesis contains two independent but connected empirical studies. The first study investigates the impact of CSR disclosure on the cost of equity, while the second investigates the impact of CSR disclosure on debt maturity.

The first empirical study takes a shareholder perspective to investigate the relationship between CSR disclosure and the cost of equity (for more details, see Chapter 4). It breaks down CSR disclosure into information level, information nature and information type in order to provide a more comprehensive understanding about the quality of CSR disclosure and its impact on shareholders' perception of a firm's risk. Information level refers to the amount of disclosed information which shows transparency and information asymmetry. Information nature, meanwhile, indicates the content of the information, affecting how shareholders would react to the information through the increase or decrease of required return. Information type is associated with the credibility of the information, influencing whether shareholders will respond to the information by trading the shares. Finally, progressing from prior findings, there are some interactions between information nature and information type which affects the credibility, content and indication of information, resulting in firm's external finance, regarding the cost of equity among Chinese firms (Hutton et al., 2003; Chen & Ghysels，2011; Plumlee et al., 2015). .

Carrying on from the first empirical study, the second study takes lenders' perspectives to explore the impact of CSR disclosure on debt financing (for more details, see Chapter 5). Due to the importance of debt financing in China and the strict

control of interest rates, debt maturity[2] is used to reflect lenders' responses towards perceived firm risk (Chen et al., 2013). However, very few studies connect the issue of CSR with debt maturity (Benlemlih, 2015). Meanwhile, the asymmetric payoff lenders experience is an interesting point worthy of study. Connecting with the first empirical chapter, it also shows the differences in perceptions and responses towards the same information between shareholders and lenders, due to their differences in terms of potential risk and payoff.

In summary, this thesis aims to reveal how CSR disclosure influences information users' perceptions about a firm's risk, reflecting on external finance. Following Plumlee et al. (2015), CSR disclosure is broken down into information components and information users, including shareholders and lenders. Due to the uniqueness of Chinese CSR disclosure and external finance, the two empirical studies take both shareholders' and lenders' perspectives to investigate how they perceive and respond to the same information components differently. Furthermore, it explores the combined effects of information components on the cost of equity and debt maturity in order to reveal the interactions among information components regarding credibility, content and indication.

1.4 Research findings

Two empirical studies contained in this thesis share the same independent variable, CSR disclosure, and two dependent variables, the cost of equity and debt maturity.

Consistent with Plumlee et al. (2015), this thesis measures CSR disclosure based on four dimensions; information level, information nature, information type, and the

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[2] In China, the range of interest rate is set by the government which means it cannot fluctuate free to reflect lenders' perceptions towards firm risk when news is released. Therefore, it would be very difficult to observe the influence of CSR disclosure on the cost of debt. Meanwhile, Du et al. (2017) and Ye and Zhang (2011) measure the cost of debt as the total interest expenses during the year t divided by the average of short-term and long-term debt issued at the beginning and end of the year t. However, CSMAR database does not provide data to calculate the interest expenses so it is impossible to know the cost of debt. On the other hand, debt maturity is not intervened by the government and it is full determined by the market. Considering these reasons, this study focuses on the debt maturity and investigation how CSR disclosure influences it.

combinations of information nature and type. Based on the Global Reporting Initiative (GRI G4.0) framework and the content proposed by Hummel and Schlick (2016), this thesis develops an index and adopts content analysis to access the information contained in CSR reports. Meanwhile, financial data is mainly collected from the China Stock Market and Accounting Research (CSMAR) database.

This thesis focuses on Chinese firms and takes data from 300 firms listed on the China Securities Index (CSI 300 index) in 2015. In 2015, the economy in China was relatively stable, thus providing an ideal setting to observe the relationship between CSR disclosures and a firm's external finance streams. Meanwhile, since the CSR disclosure data is manually collected which is very time-consuming, this thesis follows Botosan (1997), Bouten et al. (2011) and Cho et al. (2012) to only take one year to investigate. After excluding financial institutions and firms with missing data, the first empirical study (Chapter 4) uses 192 firms to investigate the relationship between CSR disclosure and the cost of equity, while the second empirical study (Chapter 5) uses 224 firms to examine the impact of CSR disclosure on debt maturity.

The first empirical study investigates the impact of CSR disclosure on the cost of equity. Consistent with Clarkson et al. (2013) and Plumlee et al. (2015), this study measures the quality of CSR disclosure through four dimensions; information level, information nature, information type and combination of information nature and type. First of all, the level of CSR information is positively related to the cost of equity which contradicts my hypothesis. The positive relationship may be because of more negative information disclosed in CSR disclosures. In addition, the positive influence of soft CSR information on the cost of equity is more pronounced than that of hard CSR disclosure. Finally, the results of combined effect of information nature and type show the complex interactions of information components and their value in the field of information connotation and credibility. These findings suggest investors are risk averse and tend to perceive negative information as increasing a firm's risk and that they see positive information as decreasing of a firm's risk, both of which are

consistent with the argument of Conrad et al. (2002) and Plumlee et al. (2015).

The second empirical study explores the relationship between CSR disclosure and debt maturity to show how disclosure influences non-pricing contracting terms. The evidence presented here indicates that the overall level of CSR disclosure positively affects debt maturity, suggesting that the overall level of CSR information has a positive impact on a firm' transparency which leads to a reduction of in perceived firm risk. However, when CSR disclosure is broken down into information nature and information type, the impact of positive information on debt maturity is negative and that of negative information is positive. These findings suggest that positive CSR information may be a signal of an agency problem, while disclosure of negative information indicates that a firm follows conservatism principles to enhance transparency and reduce information asymmetry. Meanwhile, soft information leads to the increase of debt maturity, which supports the expectation that in a highly opaque market, soft information enhances a firm's transparency, reduces information asymmetry, and lowers the perceived firm risk. This finding is consistent with the argument of Liberti and Peterson (2019) and Agarwal and Ben-David (2018); that soft information is informative and helps to improve the quality of loans. Furthermore, lenders tend to respond to positive soft negatively and negative soft information positively which indicate lenders only care about both types of information in soft form. It can be concluded that the impact of CSR disclosure on lenders' perceptions should be measured both as separate components and in aggregate to achieve a better understanding of how disclosure enhances a firm's transparency and signals its quality to influence lenders' perceptions about the firm's risk.

The findings suggest that disclosure should be partitioned into information components, namely information nature and information type, to enhance our ability to capture the relationships between information components and investors' perceptions about a firm's risk. These relationships differ across investor type (e.g. shareholders and lenders) and across variations in disclosure for hard/soft and

positive/ negative CSR issues. Consistent with the prior literature, investors tend to be more sensitive to negative information than to positive information (Coranma et al., 2011; Soroka, 2006). In addition, it provides additional evidence supporting the argument of Liberti and Peterson (2019) that soft information is at least as important as hard information, particularly when the information environment is highly opaque. In addition, due to the different interests and risks, different type of investors tends to respond to same information differently and the impact of information nature on investors' perceptions about firm risk depends on information type (Plumlee et al. 2015; Hutton et al. 2003).

1.5 Contribution

This thesis has several contributions in the field of agency theory, disclosure, external finance and emerging market. Firstly, this thesis deepens our understanding about agency theory by comparing the perceptions of shareholders with those of lenders towards the same information. This thesis includes two types of investors, namely shareholders and lenders. Due to the differences in types of investment, shareholders and lenders have different risks and payoffs, experiencing different types of agency problem which can be well explained by agency theory. Shareholders tend to experience the principle-agent problem that managers may take the advantage of separation of ownership and management to pursue self-interest at the expense of shareholders. Meanwhile, in addition to principle-agent, lenders tend to experience the principle-creditor problem that shareholders may invest in risky project for high return and force lenders to bear the potential loss without rewarding additional benefits. Therefore shareholders and lenders tend to perceive the same information differently and respond accordingly. It provides comprehensive discussions from both shareholders' and lenders' perspectives to investigate how they perceive the same combination of information nature and type, reflecting on their investment decisions in terms of cost and contracting terms. This will help to better understand the similarities and differences in the perceptions of shareholders and of lenders regarding the credibility, content and indication of the information.

Secondly, this thesis advances our knowledge about how nonfinancial disclosure affects investors' perceptions about a firm's performance and risk. It takes CSR disclosure as a proxy for voluntary nonfinancial disclosure to examine how CSR disclosure influences a firm's external finance regarding the cost of equity and debt maturity. Dhaliwal et al. (2011) and Clarkson (2013) suggest that CSR disclosure is informative and value relevant, enhancing transparency and reducing information asymmetry, so that investors are more likely to provide cheaper capital with better contracting terms. Plumlee et al. (2015) measure the quality of CSR disclosure in terms of presence, total amount, information nature, and information type, however they do not provide comprehensive detailed discussion about the interactions between information components. Meanwhile, these studies focus on only one dimension of CSR disclosure at information component level. For instance, Clarkson (2013) and Plumlee et al. (2015) focus on environmental disclosure, while Richardson and Welker (2001) investigate social disclosure. Therefore, Chapters 4 and 5 investigate the perceptions of different investors, shareholders and lenders towards firm risk based on the amount, nature and type of CSR information including both social and environmental issues. These findings suggest firms tend to be conservative by disclosing more negative information, while investors are risk averse and care more about loss than gain which is consistent with findings of Corama et al. (2011) and Soroka (2006). Moreover, soft information is particularly important and valuable to investors in a highly opaque market supporting the arguments of Dorfleitner et al. (2016) and Liberti and Peterson (2019). Following on from this, these two chapters further discuss the complex interactions between information nature and type and provide comprehensive and detailed arguments about the combined effects of information nature and type on a firm's external finance. To sum up, this study not only deepens our understanding about the degree of transparency of nonfinancial disclosure, but also extends our knowledge about each kind of information component and their interactions, as well as their combined impact on perceptions of different types of investors regarding a firm's risk.

Thirdly, this thesis extends our knowledge about how the quality of CSR disclosure affects a firm's external finance in the context of an emerging market. This thesis complements the studies of Clarkson et al. (2013) which argue that CSR disclosure may become an additional communication channel between insiders and outsiders which is very helpful in a highly financial opaque market, such as China. To investors, this thesis provides valuable insights about how to use non-financial disclosure to differentiate high quality firms from low quality rivals. Meanwhile, managers may learn from this thesis about how to use non-financial disclosure to manage outsiders' perceptions toward the firm and obtain desirable feedback. In particular, Chapter 4 and Chapter 5 extends the studies of Plumlee et al. (2015) by providing comprehensive discussions about the combinations of information nature and type, and their combined effects on the credibility, content and indication of the disclosure.

Lastly, this thesis provides recommendations to regulators regarding the future development of policies and regulations that could enhance supervision and monitoring of firms' governance and improve the efficiency of the market. This thesis investigates CSR and CSR disclosure in China showing that CSR and CSR disclosure have developed rapidly in recent decades but still remains at a low level. The vague guidelines of CSR and CSR disclosure, the weak enforcement of policies and regulations, and mild punishments are the three main causes. Therefore, the Chinese government should develop precise measures of CSR performance and detailed guidelines of CSR disclosure as well as enhancing enforcement and punishment of CSR policies and regulations.

1.6 Outline of thesis

This thesis contains eight chapters and is organized as follows. Chapter 2 provides a detailed discussion about four theories adopted in the thesis, namely agency theory, signaling theory, stakeholder theory and legitimacy theory. Chapter 3 reviews literature in the field of disclosure and its impact on external finance followed by a discussion about research philosophy of this thesis. Next, two empirical studies are set

out in chapters 4 and 5 examining the relationship between CSR disclosure and external finance, with regards to the cost of equity and debt maturity. Finally, Chapter 6 provides the final conclusion and discusses the contributions, implications and limitations of this thesis, pointing out possible directions of future studies.

Chapter 2 Theoretical framework

2.1 Introduction

This section reviews four relevant theories, namely; agency theory, signaling theory, stakeholder theory and legitimacy theory. It presents detailed descriptions and discussion about the development and implementations of these theories in CSR engagement, CSR disclosure and their impact on a firm's external financing regarding the cost of equity and debt maturity in China.

2.2 Agency theory

Agency theory, as a well established and widely adopted theory in accounting, is used in this study to explain managers' motives for disclosing CSR information and the different attitudes of shareholders and lenders towards CSR disclosure with regard to firms' external financing issues (Armitage & Marston, 2008; Arouri & Pijourlet, 2015; Baginski et al., 2018; Berger & Hann, 2007; Chen et al., 2012; Domenichelli, 2017; Morris, 1987). This section provides a comprehensive discussion about agency theory and its implementation in this study.

2.2.1 Introduction to agency theory

In 1976, Jensen and Meckling clearly define the agency problem in a general way, as when one party (principals) enters into a contract with another party (agents) to authorize the agents to act in the best interest of principals, but the agents take the advantage of this authorization to pursue their own interests at the expenses of principals. They further argue that a firm can be considered as a nexus of contracts among different production factors, all motivated by self-interest and all realizing that their destinies depend on their cooperation in the face of competition with other firms (Fama, 1980; Jensen & Meckling, 1976; Jensen & Meckling, 1983). Therefore, it can be concluded that there are various types of agency problem existing in a firm, this study focuses on two major types of agency problem, namely the agency problem

between shareholders and managers; and the agency problem between shareholders and lenders.

2.2.2 Information asymmetry

As discussed above, the occurrence of agency problems is based on two assumptions, that (1) both principals and agents try to maximize their interests; and (2) the interests of principals and agents are not always aligned (Jensen & Meckling, 1976). Furthermore, information asymmetry exacerbates the agency problem when one party has an information advantage compared to another party, which happens in most business settings (Hoque, 2018; Shapiro, 2005). For instance, managers, who are in charge of the daily operation of firms, have comprehensive information and can better understand the business compared to shareholders. Thus, managers can take advantage of their advanced knowledge to pursue their own interests at the expense of shareholders. Therefore, Shapiro (2015) suggests that information asymmetry is an important factor contributing to agency problems. This has developed into two types of agency problem; moral hazard and adverse selection (Eisenhart, 1989).

Moral hazard

Moral hazard refers to a lack of effort by an agent, specifically when managers do not put enough effort into working for the best interests of shareholders (Hoque, 2018). Since employment contracts normally do not set out in detail exactly how a manager should behave, shareholders cannot directly observe whether managers work hard enough. Thus, performance based on outcomes is the only way for shareholders to assess managers' performance (Hoque, 2018). In such circumstances, managers may be tempted to reduce their efforts, which can lead to hidden costs for businesses. It is noticeable that the moral hazard agency problem usually happens after contracts have been signed. For instance, during the financial crisis of 2008, banks experienced lack of liquidity in U.S. so the Federal Government intervened and bailed them out. Under the impress that the government would not allow them to fail and offer bailouts again, banks tend to continue take risks in the future for temporary gains.

Adverse selection

Adverse selection means that due to information asymmetry, principals can not determine whether the efforts extended by the agents will maximize the interests of the principals (Hoque, 2018). Unlike the moral hazard problem, adverse selection occurs before the signing of contracts. In a typical example, in a labor market, at the time of hiring there is no enough knowledge about managers so managers who do not have certain competences as they claim are unable to be identified (Eisenhart, 1989). Therefore, managers who are employed may not be suitable for the job. In another adverse selection situation, by failing to disclose comprehensive and proper information, managers can benefit from their information advantage over shareholders.

To sum up, information asymmetry refers to the information advantage of one party compared to another party, and to situations when the former takes advantage of this to maximize their own interests at the cost of the latter. This leads to two types of agency problems, namely moral hazard and adverse selection. Moral hazard occurs when principals have disadvantages or gaps in the information they can access and cannot efficiently discipline agents based on their contracts. Therefore, information asymmetry and the ambiguity of contracts are the two causes of moral hazard. Meanwhile, adverse selection means principals cannot make correct decisions due to lack of sufficient information before signing contracts.

2.2.3 Types of agency problems in specific relationship sets

As discussed above, there are different types of agency problem including principal-agent (type 1), majority-minority principal (type II), and principal-creditor (type III). This study focuses on the relationship between CSR disclosure and a firm's external financing regarding equity and debt, therefore, this section discusses two types of agency problem namely, the principal-agent problem, and the principal-creditor problem.

Principal-agent problem

The first type of agency problem happens between shareholders and managers and it refers to situations in which managers, who are employed to maximize shareholders' interests, take advantage of their positions to pursue their own interests at the expense of shareholders (Arrow, 1971; Jensen & Meckling, 1976; Ross, 1973; Wilson, 1968). For instance, managers tend to overinvest or choose weaker projects that will benefit them personally, which hurts the interests of shareholders (Myers, 1977).

The principal-agent problem comes from following factors: the conflict of interest between shareholders and managers, the separation of ownership and control, and information asymmetry (Jensen & Meckling, 1976; Shapiro, 2005). Due to lack of time and expertise, shareholders employ professionals to maximize the firm's value to achieve a higher share price and larger dividends. However, the interests of shareholders and managers may not be the same and both parties seek to maximize their own interests, therefore managers tend to prioritize their own interests at the expense of shareholders' interests (Al-Shaer & Zaman, 2017; Fabrizi et al., 2013). Moreover, the separation of ownership from control makes it feasible that managers can make decisions which bring benefits to them. Therefore, conflicts of interest between shareholders and managers and the separation of ownership and control are the causes of principal-agent problem (Jensen & Meckling, 1976). Meanwhile, information asymmetry is another important factor contributing to principal-agent problems (Ross, 1973; Sharpiro, 2005). The professional expertise and advantage in information access may allow managers to take advantage of their position to pursue self-interest which increases interest conflicts between managers and shareholders resulting in more principal-agent problem.

Principal-creditor problem

The principal-creditor problem focuses on the conflict of interest between shareholders and lenders; lenders provide assets or resources to the firm and shareholders are the owners of the firm. Since the value of the firm equals the sum

value of debt and equity, shareholders may be tempted to be opportunistic regarding transferring wealth from lenders to shareholders (Godfrey et al., 2003). This type of agency problem arises from variances in risk sharing attitudes between shareholders and lenders, and the asymmetric payoff of lenders (Lopez-Gracia & Mestre-Barbera 2015; Jensen & Meckling, 1976; Watts, 2003). For instance, shareholders tend to invest in risky projects to pursue additional gains and force lenders to share potential losses (Jensen & Meckling, 1976; Lopez-Gracia & Mestre-Barbera 2015). Shareholders' gain depends on firms' financial performance and their expected return is positively associated with the risk taken. Meanwhile, shareholders know that they can share risk and potential loss with lenders. Therefore, shareholders tend to invest in more risky projects to obtain additional returns. On the other hand, lenders are paid based on a pre-determined interest rate, which means they face greater downside risk and limited upside potential (Watts, 2003). Therefore, regarding risky projects, shareholders tend to invest while lenders are likely to want to avoid investing, which leads to a conflict of interests between shareholders and lenders, causing the principal-creditor problem.

To sum up, the principal-creditor problem happens when shareholders invest in a risky project and force lenders to share risk and potential loss. This problem comes from the asymmetric payoff[3] of lenders and the different attitudes toward risk taking between shareholders and lenders.

2.2.4 Agency costs

Agency costs arise from the conflicts of interest between shareholders and managers as well as between shareholders and lenders. They include monitoring costs, bonding costs and residual loss (Jensen & Meckling, 1976).

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[3] When shareholders invest in risky project for high return, lenders are forced to share the risk with shareholders but no compensation in addition to predetermined interests payment.

Monitoring costs

Monitoring costs are the expenditures that shareholders incur to set up a proper monitoring mechanism to measure, observe and limit managers' inappropriate behaviors (Al Mamun et al., 2013; McColgan, 2001). Jensen and Meckling (1976) suggest the interest conflicts between shareholders (principals) and managers (agents) may cause agency problem. Thus, a monitoring mechanism should be set up to monitor the managers, for instance hiring external auditors to audit the financial reports, or writing executive compensation contracts to motivate managers to work in the best interests of shareholders and limit their inappropriate behaviors (McColgan, 2001).

Bonding costs

The conflict of interest between shareholders and managers, as one cause of agency problem, can be mitigated by aligning the interests of managers with those of shareholders, so that managers will act in the shareholders' best interests. The expenditure for establishing and adhering to this alignment is bonding costs (McColgan, 2001). For instance, shares or options are examples of bonding costs. They are connected with the firm's accounting outcome or performance and are given as part of a manager compensation scheme. Meanwhile, financial statements are also considered as bonding costs since they are costly and required to be provided based on this accounting-based alignment (Craig, 2010). Furthermore, any costs accrued in ensuring managers do not negatively affect shareholders' interests are recognized as bonding costs (Jensen & Meckling, 1976).

Residual costs

Monitoring and bonding can mitigate the conflict of interest between managers and shareholders as well as between shareholders and lenders. However they can not fully solve the conflict and some residual losses remain (Craig, 2010; McColgan, 2001). Accordingly, the losses relating to the remaining agency problem are known as residual loss.

To sum up, agency costs include three types of costs namely, monitoring costs, bonding costs and residual loss. Monitoring costs are associated with the establishment of a monitoring mechanism to discipline managers' behaviors, while bonding costs refer to the expenditures of aligning the interests of managers with those of shareholders. The remaining costs caused by agency problems, which cannot be eliminated by monitoring and bonding, are residual costs.

2.2.5 Solutions for agency problems

As discussed above, the separation of ownership and control, the conflicts of interest between principals and agents, and information asymmetry are major causes contributing to agency problems (Shapiro, 2005). Thus, Subramaniam (2018) proposed two methods to ease the agency problem; monitoring-related strategies and incentive-related strategies.

Monitoring strategies

Monitoring strategies may ease agency problems by monitoring managers' behaviors both internally and externally. They mainly comprise three types of strategies including internal and external audits, independence of the board, and performance evaluation systems.

- Internal/external audit

Both internal and external auditing are considered as cost-effective methods to mitigate agency problems (Subramaniam, 2018). Internal auditing is mandatory for public listed firms to monitor and limit managers' opportunistic behaviors. Moreover, managers may voluntarily employ external auditors to audit the business, signaling the high quality of the firm and fewer agency problems in order to attract investors. Since shareholders can diversify investment and managers have a significant investment in the firm, for instance their own job security, managers are highly motivated to signal that it is in their best interests to enhance firms' performance. Overall, managers tend to voluntarily require internal and external auditors to provide

assurance services even in small and family firms (Carey et al., 2000; Seow, 1999).

- Independence of the board

This approach means that firms should invite outsiders onto the board to maintain its independence and monitoring function, securing the interests of shareholders. The board of directors has the responsibility to monitor management thereby securing shareholders' interests. However, if directors' own interests are involved, the board may not perform its duty effectively (Fama, 1980; Fama & Jensen, 1983; Jensen & Meckling, 1976). Some researchers point out that the independence of directors is a key to ensuring the monitoring role of the board (Dalton et al, 1999; Douglas, 1934; Dalton et al. 2007). Therefore, consideration in ensuring independence in the composition of the board and board leadership structure are proposed to address these issues (Dalton et al., 2007).

- Performance evaluation systems

Performance evaluation systems can be used to mitigate agency problems by motivating managers to work for the best interests of shareholders. For instance, a market for corporate control introduces market forces to control managers' behavior in that managers who pursue their personal interests at the expense of shareholders' will find themselves unemployed due to the bankruptcy of the firm or their replacement by other managers. Control from the market is based on the efficient market hypothesis; that in an efficient market, all the information is available to the public (Dalton et al., 2007). Thus, when firms have serious agency problems, the expectations of firms' future performance are downgraded resulting in a decrease in firms' value in the market (Hawley & Williams, 2000). Consequently, the firms may be considered as undervalued and become the targets for hostile takeovers resulting in replacement of management team (Bebchuk & Fried, 2004). To sum up, performance evaluation system reduces agency problem by motivating mangers' motivation to hence both management efficiency and firms' value.

Incentive-related strategies

Incentive-related strategies provide positive incentives to connect the interests of agents with those of principals in order to limit opportunistic behaviors. Traditionally, the incentives include bonuses, promotion, shares and share options. For instance, granting shares to managers not only aids in aligning the interests of managers with those of shareholders, but also mitigates the risks (Dalton et al., 2007). Since managers are putting their human capital and, in some cases, financial capital into the business, their interests are tied up with their firms, meaning they are likely to behave in a risk-averse manner and are strongly motivated to enhance their firms' financial performance.

Other studies find different results regarding the impact of ownership on firm performance, such as a curvilinear relationship or no relationship between insider ownership and firm performance (Demsetz & Villalonga, 2001; Himmelberg et al., 1999; Morck et al., 1988; Sundaramurthy et al., 2005). Morck et al. (1988) argue that although insider ownership motivates managers to enhance firms' performance, managers in this situation who have greater power are more likely to be entrenched, which leads to a decrease in firms' performance. Meanwhile, Amihud and Lev (1981) suggest that only if managerial shareholding reaches a certain level will the interests of managers be tightly connected with that of shareholders.

Dalten and Daily (2001) and Henderson and Spinder (2005) further suggest that how managers obtain equity influences their behaviors and firms' performance. They find that firms loaned managers funds to purchase equity and subsequently forgave these loans, which did not connect the interests of shareholders with those of managers, resulting in no relationship between insider ownership and firms' performance. On the other hand, shareholders can invest in various firms to diversify their investments, hence they tend to be more risk neutral.

To sum up, the agency problem can be mitigated through two approaches namely, monitoring-related strategies and incentive-related strategies. The monitoring-related strategies limit opportunistic behaviors by increasing monitoring, while the incentive-related strategies connect the interests of principals and agents to solve conflicts of interest, resulting in a decrease in agency problems.

2.2.6 The implementation of agency theory in CSR engagement and CSR disclosure

This study includes two kinds of agency problem namely, the principal-agent problem and the principal-creditor problem. The agency theory provides theoretical explanations about the impact of agency problems on external financing. It suggests that CSR and CSR disclosure may provide solutions to mitigate agency problems, however they could also be reflections of agency problems. This section overviews the implementation of agency theory in CSR engagement, followed by its implementation in CSR disclosure.

2.2.6.1 The implementation of agency theory in CSR engagement

In this study, agency problems occur at two levels, namely the CSR level and the disclosure level. At CSR level, there are two controversial perspectives regarding the impact of CSR engagement on firms' external financing. The first perspective suggests that firms committing to CSR engagement tend to have a high standard of business ethics, which increases firms' self-disciplining behaviors regarding managers' opportunistic behaviors (Cheng et al., 2014). Therefore, firms that have superior CSR performance tend to have lower agency costs, higher profitability, and lower risk, which increases investors' willingness to provide finance, resulting in a lower cost of financing and longer debt maturity.

However, superior CSR performance may be a result of the agency problem, since managers' intention for CSR engagement may be informed by their own interests or need to cover corporate misconduct (Hemingway & Maclagan, 2004; McWillams et al., 2006). Moreover, managers tend to manipulate investors' perceptions towards

firms' performance, which increases the agency problem. As a result, investors tend to require higher returns and shorter debt maturity to assess and monitor firms more frequently.

2.2.6.2 The implementation of agency theory in CSR disclosure

CSR disclosure provides incremental value-relevant information influencing a firm's perceived risk and future performance via CSR information and transparency (Clarkson et al., 2013; Dhaliwal et al., 2011). Firstly, it contains a firm's CSR information, reflecting the firm's commitment to CSR issues (Cheng et al., 2014). It encourages stakeholders to engage in management to improve internal control systems, which leads to efficient monitoring and reduction of agency problems, resulting in lower financing costs and longer debt maturity. However, as discussed above, CSR engagement may reflect agency problems, hence superior CSR performance may increase agency problems. Secondly, CSR disclosure, as a proxy of nonfinancial disclosure, is value-relevant and informative, which enhances firms' transparency and reduces information asymmetry, resulting in fewer agency problems, and lower transaction costs and perceived firm risks (Clarkson et al., 2013; Dhaliwal et al., 2014). As a result, high quality CSR disclosure may lead to lower financing costs and longer debt maturity.

However, disclosure may lead to an increase in information asymmetry (Fu et al., 2012; Van Buskirk, 2011). The increase in disclosure stimulates sophisticated investors to seek more private information about forthcoming disclosures, since these investors, having expertise, can better understand the disclosed information and benefit from it (Fu et al., 2012). Consequently, the increase in disclosure leads to higher information asymmetry between sophisticated and unsophisticated investors, which may worsen adverse selection and increase agency problems leading to higher financing costs and shorter debt maturity (Flannery, 1986).

To sum up, firms with superior CSR performance have higher standards of business ethics, which encourages stakeholders to participate in management and monitor managers' opportunistic behaviors. In addition, CSR disclosure, a proxy of nonfinancial disclosure, reduces agency problems via CSR information and enhanced transparency. CSR information shows the firm's commitment to CSR engagement, which increases the firm's profitability and lowers agency problems via enhanced stakeholder management. Meanwhile, the increase in CSR disclosure provides incremental value-relevant information which reduces information asymmetry and increases the firm's transparency, resulting in fewer agency problems. The detailed discussions are presented in chapters 5 and 6.

2.2.6.3 The implementation of agency theory in CSR engagement and CSR disclosure in China

In this thesis, the conflicts of interest among managers, shareholders and lenders are examined in Chinese context. They cause two types of agency problems, namely those between managers and outsiders, shareholders and lenders, and those between shareholders and lenders. The first type of agency problem comes from the separation of ownership and management. In this situation, Chinese managers are supposed to work as agents, acting on behalf of shareholders and lenders. They try to build and maintain good relationships with Chinese government officials through CSR engagement and CSR disclosure (for more details, see section 3.4.1). In return, firms can obtain business resources from these officials to enhance profitability and reduce costs. However, CSR engagement may work as a channel for increasing some personal benefits to managers and there is an information asymmetry between managers and outsiders, and the former may take advantage of their position to pursue personal interests at the cost of shareholders and lenders, which leads to agency problems (Fabrizi et al., 2013; Al- Shaer & Zaman, 2017).

The second type of agency problem is caused by conflicts of interest between Chinese shareholders and lenders. Unlike shareholders, lenders suffer from an asymmetric

payoff but they have to share a firm's risk with shareholders. This asymmetric payoff means that lenders only get a predetermined fixed payment i.e. interest - when the debt is mature. Moreover, in China interest rates are fixed and determined by the government and lenders can not price a firm's risk (for more details, see section 3.4.2.2). Therefore, lenders have no incentive to take on extra risks to endanger a firm's financial stability. On the other hand, shareholders can gain additional returns by taking on more risky projects. Therefore, shareholders tend to take advantage of lenders[4] asymmetric payoff to urge the firm to take more risky projects for larger financial rewards and force lenders to share potential losses (Lopez-Gracia & Mestre-Barbera, 2015). The agency problem can be solved by increasing monitoring, connecting managers' interests with shareholders and lenders', and replacing managers (Dalten et al., 2007). As mentioned above, CSR disclosure leads to an increase in the monitoring of managers through a firm's improved transparency and enhanced stakeholder engagement (Cheng et al., 2014). It is noticeable that Chinese market is highly opaque and investors are poorly protected (for more details, see section 3.4.2.1). Therefore, CSR disclosure is particularly important to Chinese investors since it can enhance transparency and monitoring to efficiently mitigate the agency problem between managers and shareholders and the agency problem between managers and lenders.

2.2.7 Conclusion

This study focuses on the two types of agency problem namely, the principal-agent problem and the principal-creditor problem. The principal-agent problem refers to the agency problem between shareholders and managers, while the principal-creditor problem is the agency problem between shareholders and lenders. CSR disclosure enhances monitoring and transparency and lowers information asymmetry through the CSR level and the disclosure level resulting in the mitigation of agency problem. CSR

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[4] As investors in a firm, both shareholders and lenders have to share losses when the firm invests in a bad project. However, when the firm invests in a good project and gains profit, shareholders receive extra return as rewards, while lenders are still paid at a pre-determined interest rate. Therefore, lenders experience an asymmetric payoff.

engagement and disclosure tend to be used as strategic tools to obtain business resources to enhance profitability and reduce costs among Chinese firms. Moreover, due to the high level of market opacity and weak protection of investors in China, CSR disclosure enhances transparency and monitoring, which mitigates the agency problems and lowers perceived risks, resulting in the generation of more easily obtained external financing with lower costs and better contracting terms. Therefore, CSR disclosure is particularly important to Chinese firms and investors regarding external financing.

2.3 Stakeholder theory

Stakeholder theory takes a broader view regarding the objectives of firms and how they should maximise the interests of all the stakeholders, than traditional shareholder-oriented theories. It emphasises the importance of stakeholders who are the influencing and influenced groups and people simultaneously. Stakeholders contributing to firms and obtain returns as rewards should be treated in the same manner as shareholders (Donaldson & Preston, 1995). This section discusses in detail stakeholder theory and its implications with respect to corporate social responsibility (CSR) and CSR disclosure.

2.3.1 Introduction to stakeholder theory

Stakeholder theory suggests firms should serve the needs of stakeholders to survive, develop and achieve superior performance in a changing business environment (Freeman, 1984). In recent decades, stakeholder management has been an alternative managerial approach of shareholder management, enhancing the value of firms, which challenges the traditional profit-oriented views (Freeman, 1994; Freeman, 2000). Therefore, the stakeholder theory has been integrated into the fields of corporate social responsibility, sustainability and business ethics, and was introduced and adopted in much broader areas, such as law and public administration.

Stakeholder theory suggests that firms should meet the expectations of stakeholders rather than only shareholders, in order to survive and develop in a changing business environment. The changes in the business environment come from the pressures from both internal and external stakeholders which control business resources and have great influences on how firms operate. Therefore, Freeman (1984) argued firms should redefine their service objects as stakeholders instead of shareholders and established the stakeholder theory. The development of the stakeholder theory has gone through three stages, including incubation, incremental growth and maturity. With the rapid development and increasing public attention, stakeholder management has become an alternative management approach which challenges the traditional profit-oriented opinion. Recently, it has been widely adopted in the fields of corporate citizenship, corporate social responsibly and sustainability.

2.3.2 The descriptive, instrumental and normative stakeholder theories

Based on the different 'aspects' regarding the usage of the stakeholder theory, Donaldson and Preston classified it into three types: the descriptive, the instrumental and the normative theories (Donaldson & Preston, 1995). This section provides detailed discussions of each type of stakeholder theory.

2.3.2.1 The descriptive stakeholder theory

The descriptive stakeholder theory aims to 'describe, and sometimes to explain' the characteristics and behaviours of firms (Donaldson & Preston, 1995; Kaler, 2003). It provides factual claims by describing the reality of business thinking, practice and even the nature of business (Kaler, 2003). It describes the past, current and future states of firms' operations and their stakeholders, which are normally adopted to explore new areas, generating explanatory and predictive propositions (Donaldson & Preston, 1995).

2.3.2.2 The instrumental stakeholder theory

The instrumental aspect of the stakeholder theory connects the above type of stakeholder theory to achieve 'conventional corporate objectives', for instance 'profitability, growth' (Donaldson & Preston, 1995; Kaler, 2003). In other words, the instrumental studies of corporate social responsibility tend to show that stakeholder management is a better approach to achieve conventional corporate performance objectives, rather than traditional shareholder management, since it shows what would happen to firms if they follow the theory in practice, rather than what firms do in reality (Kaler, 2003). It tries to address the cause and effect relationship between the stakeholder management and a firm's performance (Donaldson & Preston, 1995).

2.3.2.3 The normative stakeholder theory

The normative approach, as the core of stakeholder theory, takes ethical perspectives to explain what the 'function' of firms should be and what 'moral or philosophical guidelines' firms should follow in day-to-day operations (Donaldson & Preston, 1995; Kaler, 2003). It tends to broaden the function of investor-owned firms by serving all stakeholders rather than one particular type, shareholders, and tries to provide guidance about firms' operations on a moral basis, making firms become ethical to achieve their objectives more efficiently. Unlike the instrumental hypothetical approach, the normative theory focuses on ethics, tending to show how firms should follow moral standards to discipline their behaviours (Donaldson & Preston, 1995).

In conclusion, the stakeholder theory is categorised into three types, namely, the descriptive, the instrumental and the normative. The descriptive approach describes and explains the nature and operations of firms in reality. Meanwhile, the instrumental uses the stakeholder theory to address how firms should behave to achieve 'conventional corporate objectives', for instance 'profitability' (Kaler, 2003). Additionally, the normative stakeholder theory focuses on the expectations of firms' functions and operations.

2.3.3 The critics of stakeholder theory

Stakeholder theory, as a well-known theory, has been widely used in the fields of management, finance, accounting and marketing (Parmar et al., 2010). However, it has some important misapplications and limits that theory users should pay particular attention to. In this section, they are presented and discussed.

Firstly, the stakeholder theory may provide an excuse for managers' opportunistic behaviours, which increases agency costs (Jensen, 2000; Parmar et al., 2010). According to the stakeholder theory, firms should pursue the interests of all their stakeholders, which may convince the managers to defend their behaviour for the best interests of shareholders, as it benefits more groups. Parmar et al. (2010) pointed out that the performance of managers adopting a shareholder management approach can be easily monitored and measured, since shareholders are the sole service object group and they only pursue the maximisation of the financial performance of firms. On the other hand, stakeholder management tends to serve the needs of all stakeholders, which are different and may be contradictory. Thus, managers who have a duty to all stakeholders cannot be monitored easily and their performance is also difficult to measure. Then, managers may use stakeholder management as an excuse to engage in self-dealing. However, Phillips et al. (2003) argue that the opportunistic behaviour of managers normally occurs under shareholder management, and other organisation theories have the same problem. They further indicate that stakeholder management restricts managers' behaviours through more obligations and duties of care to stakeholders, which may enhance managers' accountability and mitigate the agency problem.

In addition, the stakeholder theory focuses on the maximisation of the value of firms in the long term (Jensen, 2002). Similarly with shareholder management, the ultimate objective of stakeholder management is the enhancement of a firm's value (Moser & Martin, 2012). It is understandable that stakeholders are important to firms, as they participate in the whole value creation process of a firm. Therefore, firms should

pursue the best interests of stakeholders and meet their expectations. However, stakeholder management is very costly and the benefits may not cover all the relevant costs in the short term, which may destroy the short-term value of firms (Oh & Chang, 2011). Moreover, Friedman and Miles (2006) even argue that stakeholder management is unsustainable since it may reduce firm value and shareholder wealth. Stakeholder management aims to serve the interests of all the stakeholders which may sacrifice the benefit of shareholders, resulting in the loss of competitive advantages, in terms of the ability of maximising shareholder value.

Lastly, the stakeholder theory suggests that all stakeholders should be treated equally, although in reality, managers have great difficulty in offering equal treatment for each stakeholder group (Marcoux, 2000; Parmar et al., 2010). Stakeholder theory emphasises the importance of all stakeholders and suggests equal treatment, whereas it ignores the different contributions of stakeholders and the limit of the assets of firms. Mitchell et al. (1997) argue it is not realistic for managers 'attending all claims', hence, they suggest stakeholder groups should be classified based on their contributions and treated differently. For instance, the key stakeholders providing essential resources should be given priority.

To sum up, stakeholder theory is widely used to explain the importance of stakeholders and broaden the management objectives of firms. However, there are some important critics about stakeholder theory (Mitchell et al., 1997). Firstly, stakeholder theory may be used as an excuse for managers' opportunistic behaviours. Managers may satisfy stakeholders' needs to pursuit their personal interests, for instance personal reputation. Secondly, the stakeholder theory encourages firms to serve the needs of stakeholders, which may damage firms' short-term value. Thirdly, the equal treatment of all stakeholders suggested in the stakeholder theory is not practical.

2.3.4 The implementation of stakeholder theory in CSR engagement and CSR disclosure

Stakeholder theory has been readily accepted in the field of business ethics, particularly CSR. The concept of CSR endows firms with citizenship, suggesting that firms should integrate into society and should benefit and gain benefits from society. Therefore, firms should work for the well-being of stakeholders and shareholders. As one of the most popular theories in the area of CSR, the stakeholder theory provides strong theoretical support to help CSR researchers identify and specify the social obligations of business (Parmar et al., 2010). This section begins with the discussion about the implementation of the stakeholder theory in CSR engagement, then briefly overviews the implementation in CSR disclosure.

2.3.4.1 The implementation of the stakeholder theory in CSR engagement

Stakeholder theory suggests that stakeholders can influence and be influenced by firms, provide firms with business resources to survive, operate and develop in a changing environment – in return, firms should serve the interests of stakeholders. It predicts that firms engaging in CSR issues and having superior CSR performance, tend to experience an increase in profitability and a reduction in costs and risks.

The stakeholder theory suggests that firms with a superior CSR performance tend to have better financial performance, through obtaining more resources, plus building and maintaining competitive advantages (Servaes & Tamayo, 2013; Surroca et al., 2010). It advocates that firms should integrate into society, build good relationship with stakeholders and take stakeholders' interests into consideration during the business decision process (Donaldson & Preston, 1995). In return, stakeholders provide more business resources, helping firms to build and maintain competitive advantages, including customer awareness and loyalty, human capital, innovation and reputation (Ng et al., 2015; Servaes & Tamayo, 2013; Surroca et al., 2010). Consequently, firms with competitive advantages can easily outperform their rivals in terms of financial performance.

Meanwhile, stakeholder theory predicts that firms that adopt CSR strategies and have superior CSR performance, tend to experience an increase in the firm's value, via a decrease of costs. The superior CSR performance shows firms' commitment to serving the interests of stakeholders, which builds mutual trust and cooperation between firms and stakeholders (Cheng et al., 2014). As a result, firms tend to have more efficient contracts with key stakeholders, leading to a reduction of agency costs and transaction costs, resulting in the enhancement of profit generation (Cheng et al., 2014). Moreover, firms with superior CSR performance are less likely to violate laws and regulations, therefore, they tend to have less penalties and fines (Cheng et al., 2014; Wang et al., 2015).

Additionally, firms with a superior CSR performance tend to experience lower risks (Koh et al., 2014; Orlitzky & Benjamin, 2001). Superior CSR performance leads to a good relationship between firms and stakeholders, and shows good stakeholder management and that firms care about stakeholders' claims, resulting in less likelihood of being sued, particularly in the litigious business environment (Orlitzky & Benjamin, 2001). Moreover, a superior CSR performance may function as an insurance mechanism, to protect firms from negative events through moral capital and good corporate reputation (Koh et al., 2014; Ye & Zhang, 2011). Also, a superior CSR performance may help firms to reduce the negative judgements of stakeholders and sanction when negative events occur (Godfrey, 2005; Ye & Zhang, 2011).

To sum up, stakeholder theory suggests firms should broaden their objectives by serving the needs of stakeholders and emphasises that stakeholders are important for firms to survive and develop in a changing business environment, through increasing the profitability of firms and reducing costs and risks. It advocates that firms should engage in CSR issues and have superior performance, to build a good relationship with stakeholders in order to acquire more business resources, which enhances a firm's profitability. Meanwhile, firms with a superior CSR performance tend to gain the confidence and trust of stakeholders for improving the efficiency of contracts and

lowering agency and transaction costs. Also, they are less likely to violate regulations, resulting in less litigation risks, penalties and fines. Furthermore, a superior CSR performance generates moral capital to protect firms from negative events.

2.3.4.2 The implementation of stakeholder theory in CSR disclosure

CSR disclosures contain the CSR information of firms, which affects firms' profitability, costs and risks as discussed above. CSR disclosure can enhance information available to stakeholders showing firm's commitment towards CSR issues thus stakeholders enhance their monitoring function, and thus reinforces the firm's internal control (Cheng et al., 2014). As a result, the improved internal control system ensures that firms comply with regulations, which limits the likelihood of managers' opportunistic behaviours, reducing the litigation risks of firms (Cheng et al., 2014).

Moreover, CSR disclosure is incrementally informative and provides an alternative communication channel of financial disclosures between firms and their stakeholders (Clarkson et al., 2013; Dhaliwal et al., 2014). The CSR disclosure contains value-relevant information which is considered to have the same impact of financial information on the profitability and risks of firms. Meanwhile, CSR disclosure, as a means of interaction and communication between firms and stakeholders, helps firms to understand and serve the needs of stakeholders better, in order to gain more support from stakeholders for increasing profitability and lessening the costs and risks (van der Laan Smith et al., 2005).

To conclude, firms issuing high quality CSR disclosure tend to experience a reduction of cost and risk. CSR disclosure provides a communication channel between firms and stakeholders, allowing firms to understand and serve the needs of stakeholders better, resulting in a supportive and cooperative relationship between firms and stakeholders.

2.3.4.3 The implementation of stakeholder theory in CSR engagement and CSR disclosure in China

Guanxi which literally means interpersonal connections is essentially stakeholder management in China (Su et al., 2007) (for more details, see section 6.4.1). Su et al. (2007) indicate *guanxi* management plays a very important role in Chinese firms' survival and growth. They point out that an effective stakeholder management should follow a hierarchical model that stakeholders are not equally important and firms should classify stakeholders into (1) internal and external stakeholders, (2) core, major and peripheral stakeholders and (3) primary and secondary stakeholders to manage their needs more effectively. Following their argument, Yin and Zhang (2012) suggest to Chinese firms stakeholders' satisfaction is one of main motives of CSR engagement and disclosure and there are two types of key stakeholders namely, Chinese government and international buyers.

Most of firms engaging in CSR activities and disclosing CSR information are government oriented because Chinese government has great influence on economy which heavily affects firms' performance and external finance (Gao, 2009, Jiang & Kim, 2015). During the last two decades, Chinese government, another important stakeholder, has regarded 'Scientific Development and Harmonious Society' as the priority before the GDP growth and taken the environmental protection and social welfare as national strategies (Yin & Zhang, 2012) (for more details, see section 3.4.1). It has developed a series of policies and regulations to promote CSR engagement and CSR disclosure and rewards superior performers with tax incentives, subsidies, bank loans etc. For instance, China Banking Regulatory Commission requires state-owned banks to follow green-credit policies and take environmental issues as criteria of loaning decision which directly influences firm's ability to obtain external finance as well as financing cost (Du et al., 2017). Similarly, Chinese government has significant influence on private banks to secure the business contracts generating the social and environmental values (Zhao, 2012).

Meanwhile, with the introduction of CSR concept and the increase of export during the past decades, Chinese firms find foreign buyers and multinational firms emphasize the importance of social and environmental wellbeing (for more details, see section 3.4.1). Therefore, Chinese firms consider engaging in CSR activities, disclosing CSR performance information and obtaining ISO 9000 and 14000 certifications as licenses to enter the international market. By doing so, Chinese firms have the increase of sales and profitability.

CSR engagement and disclosure allow firms being able to effective manage stakeholders and satisfy the needs of them, particularly the needs of key stakeholders, international buyers and Chinese government (Su et al. 2007). As a result, firms tend to be more successful to obtain stakeholders' supports. They tend to experience the increase of sales and have favourable policies and are less likely to be sued or punished which lead to the increase of profit and the reduction of risks. Consequently, they can easier obtain external financing with lower costs and better contracting terms.

2.3.5 Conclusion

A superior CSR performance shows the commitment of firms on CSR issues which obtain the support of stakeholders, resulting in higher profitability, lower costs and risks. Meanwhile, CSR disclosure affects firms in two ways, including contained CSR information and disclosure. As discussed, CSR information influences the profitability, costs and risks of firms, while CSR disclosure as a means of communication, improves the interaction between firms and stakeholders, which enhances their relationship and results in an increase of the value of firms and a reduction in their risks. In China, firms adopt CSR and CSR disclosure as the strategic tool to fulfil the needs of its stakeholders, particularly government, and in return it can obtain the support of stakeholders and business resources, such as more sales, lower costs and lower firm risk, resulting in obtaining external finance being available at lower costs. For further discussions about the implementation of stakeholder theory in the

relationship between CSR disclosure between external finance in China are presented in Chapter 5 and 6.

2.4 Signaling theory

Signaling theory has been widely used in accounting studies, particularly in the field of disclosure. It focuses on information asymmetry in the market, which is one main cause of agency problems, as discussed above (Jensen & Meckling, 1976). Signaling theory suggests that one party having more information should send a signal to reduce information asymmetry and differentiate it from other parties (Morris, 1987). This study applies signaling theory to explain the signaling effect of CSR and CSR disclosure on firms' quality in terms of firms' future performance and perceived risks. In the next section, information asymmetry is discussed, followed by the introduction of signaling theory. Then, signaling theory is used to explain the importance of disclosure. Finally, the implementation of signaling theory in CSR and CSR disclosure is presented.

2.4.1 Information asymmetry

Studies suggest that information has a significant influence on individuals in households, business and government during the decision-making process (Carlin et al, 2013; Csaszar & Eggers, 2013; Wlt et al., 2013). Information can be categorized into two types namely, public information, referring to information that is freely available to the public, and private information, which is accessible only to certain communities (Connelly et al., 2011). Since all individuals can access public information but only some hold private information, information asymmetry arises. Individuals who have both public and private information can make better decisions than those who only hold public information (citation). Therefore, the different availability of information may lead to information asymmetry, resulting in different investment decisions regarding cost of equity and debt maturity.

Stiglitz (2002) criticizes formal economic models of decision-making processes as being under the assumption of perfect information, referring to the free availability of all information, and ignoring information asymmetry existing in the markets. Many researchers (citations) admit the imperfection of information, however they argue that minor information asymmetry does not affect individuals' decisions, indicating the impact of information asymmetry on decision making in the marketplace is not as significant as Stiglitz suggests (Connelly et al., 2011). Therefore, in order to better understand markets with regards to imperfect information, George Akerlof, Michael Spence, and Joseph Stiglitz further investigated information asymmetry and its influence on markets, and established signaling theory. As a result of their work, they received the 2001 Nobel Prize in Economics for their early contributions to the field of information asymmetry.

It is noticeable that information asymmetry is particularly important to two types of information; information about quality, and information about intent (Stiglitz, 2000). Regarding information about quality, information asymmetry is important because one party does not have comprehensive information about another party, while for information about intent, the importance of information asymmetry comes from one party's concern about the intention of another party's behaviors (Elitzur & Gavious, 2003). Therefore, some studies link information asymmetry about behavior and intentions with moral hazard and the use of incentives (Jensen & Meckling, 1976; Ross, 1973). As discussed in the previous section, moral hazard involves unobservable or non-verifiable information about the contractors' behaviors and 'hidden actions'. In this situation, information users, who have comprehensive information including the intentions of certain behaviors, can mitigate the agency problem by designing and using proper incentives to tie up the interest of managers with that of shareholders.

To sum up, information asymmetry, as one of main causes of agency problems, arises from differences in the information available to different parties. The party having superior knowledge tends to make a better decision than its counterpart, suggesting the importance of information in the decision-making process.

This study uses CSR disclosure, a proxy for nonfinancial disclosure, to explore how disclosure influences investors' perceptions towards firms' future performance and risks, reflecting on investment decisions in terms of external financing costs and contracting terms. In this thesis, managers use both CSR performance and CSR disclosure to signal firms' quality and mitigate agency problems through reducing information asymmetry and enhancing transparency. Thus, signaling theory is applied as a part of the theoretical framework to support the author's arguments and develop hypotheses.

2.4.2 Introduction to signaling theory

Signaling theory addresses the problem of information asymmetry in the market by suggesting that the party with more information should send signals to others for the differentiation and reduction of information asymmetry (Morris, 1987).

2.4.2.1 The origin of signaling theory

Signaling theory was originally discussed in a study of the labor market (Spence, 1973). According to Spence (1973), education experience works as a signal, helping employers to differentiate and select job candidates with regards to their productivity. In the labor market, employers lack information about job candidates and their productivity, which is very difficult to observe directly, therefore employers have to distinguish and select candidates by an indirect method. Employers find certain personal attributes influence an employee's productivity. Education is one such attribute, since an advanced educational degree holder has proven to be intelligent and diligent enough to pass their exams. Thus, employers use education as a signal to differentiate and hire the right employees. In contrast to human capital theory, which

emphasizes the importance of education influencing employees' productivity, Spence's model focuses on the signaling function of education implying the unobservable attributes of the job candidates (Weiss, 1995).

In a later study, Kirmani and Rao (2000) provide a more general example to illustrate signaling theory. In this example, outsiders have to distinguish between two firms, a high-quality firm and a low quality firm. Firms know their own qualities while outsiders do not, suggesting there is information asymmetry. Therefore, each firm can choose to signal or not signal its quality and accordingly receive different payoffs. When the high-quality firm signals, it receives Payoff A, while when it does not signal, it receives Payoff B. The low quality firm receives Payoff C if it signals, and receives Payoff D if not. Signaling theory predicts that when A> B and D> C, outsiders can distinguish a high quality firm from a low quality one, since the high quality firm is motivated to signal its quality and the low quality firm will tend to hide its low quality by not sending signals.

In this study, CSR performance and CSR disclosure are considered as signals sent by managers to investors. Signaling theory is adopted here to explain how CSR performance and CSR disclosure signal firms' quality and influence investors' investment decisions in terms of required return and contracting terms.

2.4.2.2 Key concepts of signaling theory

The above paragraphs highlight the original implementation of signaling theory. This section breaks down the signaling process into four components; signaling process, signaler, signal, and receiver, to further investigate the working mechanism of the signaling process.

Signaling process

Signaling process refers to the process via which a signaler sends a signal to a receiver and the receiver responds accordingly (Connelly et al., 2011). The signaler

has some attributes which may influence the receiver's decision but which cannot be observed or verified directly. Therefore, a signal is used as a means of communication implying these attributes between signaler and receiver. When a receiver captures the signal and interprets its underlying meaning, he/she responds accordingly.

This study takes CSR disclosure as an example to explore how CSR information and CSR disclosure signals a firm's quality and influences investors' investment decisions. A detailed discussion of signaling effect of CSR disclosure on external financing is presented in the later section, 2.3.3.

Signalers

Signalers, as one essential element of signaling theory, are insiders, for example executives or managers, who have superior knowledge about an individual, product, or organization compared to outsiders (Spence, 1973; Kirmani & Rao, 2000; Ross, 1977). This superior knowledge comes from the information that insiders have but which cannot be obtained or observed by outsiders. The information may be positive or negative and is useful to outsiders for decision making. For instance, the information may be about a firm's research and development (R&D). It may include a firm's expenditure on R&D, the latest news regarding new technology, and forecasts of future development. This private information provides insiders advantages via superior knowledge about the underlying quality of an individual, product, or organization by capturing its attributes. Due to the unavailability of private information to outsiders, insiders tend to send signals to outsiders implying these attributes. Therefore, the signaling behaviors draw researchers' attentions to investigate the intention of sending signals (Cheng et al., 2014; Dhaliwal et al., 2011).

For instance, in this thesis managers are signalers issuing CSR disclosure to signal firms' quality. Prior findings show that the intention for CSR disclosure may be managers' high ethical standards as well as the pursuit of their own interests or the coverage of corporate misconduct, and accordingly investors' responses may vary

(Cheng et al., 2014; Hemingway & Maclagan 2004; McWillams et al. 2006). In section 2.2.3, this is discussed in detail.

In conclusion, signalers, as one element of the signaling process, have private information allowing them superior knowledge about the imperceptible attributes of an individual, product or organization compared to outsiders. They can choose whether to inform outsiders about these attributes via signals, however, these signals may be misleading and false. Therefore, signalers' intentions are important to investors' perceptions regarding a firm's quality.

Signals

In signaling theory, signals are used to communicate private information insiders have to outsiders, reflecting the quality of an individual, product or organization (Spence, 1973; Kirmani & Rao, 2000; Ross, 1977). Insiders have both positive and negative private information and have to choose whether, what, and how to communicate this information to outsiders. It is understandable that insiders tend to provide positive information to convey positive organizational attributes, reducing information asymmetry and hiding negative information. However, the conservative principal predicts that insiders also send signals about negative information implying an organization's negative attributes. Connelly et al. (2011) point out that signaling theory mainly focuses on insiders' actions intentionally communicating positive unobservable qualities.

From the insiders' point of view, signals have two important characteristics regarding efficient communication namely, observability and cost (Connelly et al., 2011). Observability means that effective signals should be able to attract outsiders' attention. If signals sent by insiders cannot be noticed and observed by outsiders, communication between insiders and outsiders becomes difficult.

Moreover, signal cost is another characteristic of effective signaling, deriving from the production of the signal and the punishment for being caught providing misleading or false signals. Signal production is costly in terms of money, time, and energy, and some signalers who have the quality reflected by signal can better absorb the associated costs than others (Connelly et al. 2011). Signalers, who have the quality reflected by the signal, tend to produce costly signals to increase the difficulty of mimicking and distinguish them from others (Morris, 1987). In contrast, signalers, who do not have the quality but believe the benefits brought by the signal will exceed the costs, tend to mimic signals and provide false ones. If their opportunistic behaviors were caught, receivers would ignore these misleading signals and punish these dishonest signalers to maintain the effectiveness of signals. For example, disclosure is often used to signal a firm's quality. A well performing firm tends to provide detailed and verifiable information about its performance to enhance the credibility of the information and increase the difficulty of mimicking. As the result, investors can easily recognize the well performing firm from poorly performing competitors. On the other hand, poorly performing firm may mimic well performing one to provide misleading or even fake disclosures to manipulate investors' perceptions towards firm quality.

To sum up, signalers send signals to receivers implying certain imperceptible attributes of an individual, product or organization. Since signalers have private information and are in a better position than outsiders regarding information, they may manipulate receivers' perceptions by sending misleading signals. However, signalers have to ensure the signals can be observable to receivers and at least partially truthful in order to maintain the effectiveness of the signaling mechanism. This study focuses on the perceptions and responses of investors towards the signals sent by firms, and seeks to reveal how investors differentiate the credibility of signals.

Receivers

Receiver refers to outsiders who have little or no information about the organization but would like to receive this information for the purpose of decision making (Connelly et al., 2011). However, the interests of signalers and receivers may be different, which leads to conflicts between them, resulting in signals sent by signalers benefiting signalers at the expenses of receivers (Bird & Smith, 2005). As discussed above, the production of signals is costly and the reliability of signals is essential for benefiting both signalers and receivers. If signalers send false signals for the purposes of cheating, receivers have to identify the credibility of signals, leading to an increase in costs and eventually the complete failure of the whole communication system (Bird & Smith, 2005). Therefore, signals should at least guarantee partial truth and reliability of information to ensure the mutual benefits of signalers and receivers gain from communication.

In this study, shareholders and lenders and outsiders are signal receivers who lack information about firms' quality for investment decisions. Therefore, managers issue CSR disclosures implying firms' quality to manage shareholders' and lenders' perceptions and expectations about firms for the purpose of obtaining external financing. In this situation, the quality and credibility of CSR disclosure reflects signalers' motives and attitudes towards disclosing, while the external financing regarding costs and contracting terms reflects receivers' perceptions towards firms' quality.

Simply stated, signaling theory involves four primary elements namely, the signaling process, signaler, signal and receiver. In a single dyad, a signaler sends a signal, implying some attributes of an entity, to a receiver for the purpose of decision making. It is worth noting that some cases may involve multiple signalers, signals and/or receivers. In this study, CSR performance and CSR disclosures are signals; signalers are managers and receivers are shareholders, lenders, and other stakeholders. Detailed discussions regarding signaling effects of CSR engagement and CSR disclosure on

investors' perceptions towards a firm's quality are presented in the later section, 2.4.3.

2.4.3 The implementation of signaling theory in CSR engagement and CSR disclosure
In this study, signaling theory is applied to explain the impact of CSR disclosure on investors' perceptions towards firms' future performance and risks, reflected in firms' external financing in terms of cost and contracting terms. Signaling theory suggests this relationship can be explained via two approaches namely, CSR information and disclosure. Therefore, in this section, the implementation of signaling theory in CSR engagement and CSR disclosure are presented as follows.

2.4.3.1 The implementation of signaling theory in CSR engagement
Spence (1973) suggests that observable mechanisms can be used to illustrate the unobservable characteristics of an individual, product or organization. In this study, signaling theory is adopted to explain the signaling effect of CSR performance and the impact of CSR on firms' external financing.

Firms engaging in CSR activities may obtain some private standard certification for their superior CSR performance, signaling some of firms' unobservable attributes, resulting in reduced information asymmetry (Su et al., 2016). King et al. (2005) suggest private management standard certification signals firms' unobservable characteristics. For example, ISO 14001 environmental management certification signals firms' commitment to overcoming opportunism. When firms have private management certification, this certification provides additional credible information about and guarantees the quality of firms' products or services, resulting in a decrease in information asymmetries between firms and outsiders.

Like private management certification, CSR engagement and performance signals firms' quality towards outsiders, which is associated with firms' perceived risks and future performance, reflected by firms' ability to access external financing regarding cost and contracting terms (Clarkson et al., 2008; El Ghoul et al., 2011; Koh et al.,

2014). Su et al. (2016) argue that CSR signals certain unobservable attributes of firms, allowing them to fulfill their obligations towards shareholders and society as a whole. Therefore, stakeholders may value these attributes and support firms by providing more business resources. Consequently, these firms with superior CSR performance tend to have lower cost and higher profit which may outperform their rivals financially.

Meanwhile, firms with superior CSR performance are less likely to suffer from agency problems and to have difficulties obtaining external financing (Cheng et al., 2014). Cheng et al. (2014) suggest superior CSR performance reveals firms' CSR activities, signaling firms' long-term commitment to engagement in CSR issues, resulting in mutual trust and cooperation between firms and stakeholders. Consequently, firms with superior CSR performance are considered as socially responsible and as having high standards of business ethics. Jones (1995) argues firms' high ethical standards is the most efficient way to solve commitment problems, since firms that have contracts with stakeholders on the basis of mutual trust and cooperation tend to control their behaviors to overcome opportunism, leading to reduced agency and transaction costs. Consequently, firms with superior CSR performance tend to experience lower agency costs, better financial performance and have easier access to external financing with lower costs and better contracting terms (Benlemlih, 2015; Cooper & Uzun, 2015; Kim et al., 2018).

However, CSR engagement may indicate agency problems, since managers may use it as an excuse to pursue self-interest at a cost to shareholders or to cover corporate misconduct (McWillams et al., 2006; Hemingway & Maclagan, 2004). Moreover, managers tend to mislead investors' perceptions about firms' performance via superior CSR performance, which increases agency problems. Thus, investors have to closely monitor managers and minimize the free cash flows held by them in order to control and reduce agency problem. Accordingly, investors tend to determine the offer of external financing and adjusting financing costs and contracting terms to protect their

interests.

To sum up, firms with superior CSR performance obtain certain private management standard certifications, which signal certain unobservable attributes of firms, thereby reducing information asymmetry. Meanwhile, superior CSR performance signals firms' long-term commitment to serving stakeholders' interests. In return, stakeholders provide more intangible assets to support firms, such as customer loyalty and employee loyalty, resulting in better financial performance. In addition, firms with superior CSR performance tend to have higher ethical standards and be more disciplined, which leads to lower agency and transaction costs, resulting in better access to financing with lower costs and better contracting terms. However, it is noticeable that firms' CSR engagement may be a signal of agency problems, since managers' intentions through CSR engagement may be pursuing their own interests. As a result, CSR engagement may worsen agency problems, increasing the difficulty of obtain external financing and leading to higher costs and stricter contracting terms.

2.4.3.2 The implementation of signaling theory in CSR disclosure

The signaling effects of CSR disclosure impact on firms' abilities to access external financing with lower costs and better contracting terms via two approaches, namely, CSR information and transparency (Cheng et al., 2014; Dhaliwal et al., 2011; Gao et al., 2015). The first approach has already been discussed above, while this section focuses on the signaling effect of CSR disclosure on firms' transparency.

CSR disclosure, as a proxy for nonfinancial disclosure, is incrementally informative, providing an alternative communication channel between firms and investors, resulting in a decrease in information asymmetry and the enhancement of transparency (Clarkson et al., 2013; Dhaliwal et al., 2011). CSR disclosure provides additional CSR performance information about firms in addition to what investors already know, and since it is value relevant, CSR disclosure has the same impact as financial disclosure on firms' external financing via transparency and information

asymmetry (Clarkson et al., 2013; Dhaliwal et al., 2014).

Also, CSR disclosure is voluntary, therefore the initiation and the quality of CSR disclosure reflect firms' commitment to CSR issues and intentions and impressions of their management (Dhaliwal et al., 2011; Ng & Rezaee, 2015). High quality CSR disclosure, implying high transparency and lower information asymmetry, leads to lower transaction costs, better monitoring and lowers firms' risk. Therefore, firms issuing high quality CSR disclosure are more likely to obtain external financing more easily, with lower costs and better contracting terms.

In summary, CSR disclosure affects firms' abilities to access financing via two approaches namely, CSR performance information and disclosure. Since the signaling effect of CSR information is presented in the previous section, this section focuses on the nature of CSR disclosure as a type of nonfinancial disclosure. CSR disclosure provides incremental information to reduce information asymmetry and enhance transparency, and signals firms' quality and risks.

2.4.3.3 The implementation of signaling theory in CSR engagement and CSR disclosure in China

The opacity level of Chinese market is high which means Chinese investors have limited information sources and experience great difficulties to obtain information about listed firms (Wang et al., 2008). Thus, Chinese firms and investors urgently need additional ways to communicate each other in order to reduce information asymmetry and enhance transparency for investment purposes.

As discussed above, CSR engagement and disclosure are signals of firms' quality and risk attracting the attentions of firms and investors. CSR engagement signals firms' commitments towards CSR issues, some unobservable characteristics and agency problems (for more details, see section 2.4.3.1). CSR disclosure containing CSR performance information additionally signals firms' transparency (for more details,

see section 2.4.3.2). Therefore, CSR disclosure is value-relevant and incrementally informative which makes CSR disclosure as supplementary of financial disclosure (Clarkson et al., 2013; Dhaliwal et al. 2014). More importantly, Dhaliwal et al. (2014) point out that CSR disclosure is particular valuable to investors estimating firms' quality and risks when the market is highly opaque.

Thus, considering the high opacity of Chinese market, CSR engagement and disclosure are very important in Chinese market. They provide a communication channel between Chinese firms and investors in addition to financial disclosure. Chinese firms use CSR engagement and disclosure as signals to show their quality and risks, while by analyzing these signals Chinese investors can better understand firms and make wise investment decisions regarding financing cost and contracting terms.

2.4.4 Conclusion

In this study, CSR disclosure is a signal sent by managers to show firms' commitment to stakeholder management, high ethical standards and high quality for the purpose of obtaining external financing with lower costs and better contracting terms. It influences investors' perceptions towards firms' future performance and risks via two approaches namely, CSR performance information and disclosure. From the CSR engagement perspective, firms with superior CSR performance tend to have some private standard certification to signal their good quality and to reduce information asymmetry. Meanwhile, superior CSR performance signals firms' good quality, in terms of strong future performance and low risks, towards outsiders. It is worth noting that CSR performance is considered as both a mechanism to mitigate and as a reflection of agency problems.

From the disclosure perspective, CSR disclosure is a proxy for nonfinancial disclosure, providing incremental information resulting in decreased information asymmetry and enhanced transparency. In addition, the initiation and the quality of CSR disclosure, a

kind of voluntarily disclosure, implies firms' devotion to CSR issues and intention of impression management, which influences investors' perceptions towards firms' future performance and risks.

Since Chinese market is highly opaque, CSR disclosure is particularly important to firms and investors. It is not only incremental informative but also build an additional communication channel between firms and investors in Chinese market. Through the signals sent by CSR disclosure, investors can know more about firms and accurately estimate their quality and risks. As a result, investors can make wise investment decision regarding financing costs and contracting terms.

2.5 Legitimacy theory

Increasingly, legitimacy theory has been applied in the field of social and environmental accounting during the last decade (Hoque, 2018). This section overviews the notion of 'legitimacy', the 'social contract' and the 'legitimacy gap' and emphasizes the importance of legitimacy for firms' survival and development. The following sub-sections include a brief introduction to legitimacy theory, an explanation of the connection between legitimacy theory and stakeholder theory, strategies to obtain, maintain and restore firms' legitimacy, and a discussion of the implementation of litigation theory in CSR engagement and CSR disclosure.

2.5.1 Introduction to legitimacy theory

Legitimacy theory has broad application, particularly regarding public disclosure (Hoque, 2018). It suggests that firms should comply with social expectations to obtain the legitimacy required for survival and growth in society (Cotter et al., 2011). As defined by Suchman (1995), the concept of 'legitimacy' refers to ' generalized perceptions or assumptions that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions'. Legitimacy theory indicates that only if the benefits outweigh the costs to society will allow firms to continually operate, and emphasizes that firms should

serve the needs of society as a whole rather than that of investors or individuals (Fermando & Lawrence, 2014). Hoque (2018) further points out that legitimacy is dynamic and changes along with changes in community attitudes, and that it varies from one society to another. Therefore, it is important for firms to understand social norms and values, and to gain legitimacy at a particular time and place.

Legitimacy theory is classified into two variants namely, institutional legitimacy theory, which is a wider perspective, and organizational legitimacy theory, a narrower perspective (Tilling, 2004). Institutional legitimacy theory focuses on the legitimacy of a system and explores how organizational structures have obtained legitimacy from society (Gray et al., 2014; Tilling, 2004). This wider perspective has been widely discussed in the field of political economy (Hoque，2018). Meanwhile, organizational legitimacy theory is concerned with the legitimacy of individual organizations, and is often adopted in accounting studies regarding CSR disclosure and annual reports (Gray et al., 2009). In this study, it is used to investigate firms' external financing issues at an organization level.

Legitimacy gap

When firms fail to respond to changes in social norms and values, a legitimacy gap occurs (Hoque, 2018). The legitimacy gap refers to the difference between how society expects firms should act and how society perceives firms have acted. It has two main sources namely, the changes of corporate performance and/or societal expectations of corporate performance, and previously unknown information (Sethi, 1978).

As discussed above, legitimacy is dynamic in terms of its substance depending on time and place, therefore, any changes between business performance expected by society and actual corporate performance lead to changes in the legitimacy gap. Wartick and Mahon (1994) classify changes in the legitimacy gap into three types: firstly, corporate performance changes but societal expectations of corporate

performance remain the same; secondly, societal expectations of corporate performance change but corporate performance remain the same; third, both societal expectations and actual corporate performance change. It is noticeable that the changes in societal expectation of corporate performance comes from the changes in the composition of stakeholder groups and the changes of stakeholder value due to evolving social awareness, regulatory or institutional pressures, interest group pressures and corporate crises (O'Donovan, 2002).

Also, the disclosure of previously unknown information may also cause a legitimacy gap. Hoque (2018) argues that media has significant influence on forming and shaping public opinion towards firms' legitimacy by revealing the 'corporate shadow' (Sethi, 1978). Corporate shadow refers to the information unavailable to the public which potentially threatens firms' legitimacy. Hence, disclosure becomes an important approach to reduce the legitimacy gap by showing corporate behaviors change depending upon the changes in society's expectations (Hoque, 2018). Since the substance of legitimacy changes depending upon time and place, the legitimizing disclosure may vary to respond to the changes in a society's expectation, or may attempt to shape or change society's expectations.

The legitimacy gap shows the difference between society's expectation about firms' actions and firms' actually behaviors in response. However it is not the focus of legitimacy theory. Instead, legitimacy theory considers organizational legitimacy as a resource for firms' survival (Hoque, 2018). It suggests that society's perceptions towards firms' behaviors have a significant role in shaping legitimacy rather than firms' actual conduct, and emphasizes the importance of how corporate disclosures influence and manipulate a society's perceptions towards firms' operations

Social contract

As the central notion of legitimacy theory, 'Social contract' refers to a set of society's expectations about how firms should behave (Hoque, 2018). These expectations are

regarded as 'social contract terms' that firms should comply with. Shocker and Sethi (1974) further point out that the social contract ensures firms deliver socially desirable ends to society, and distribute economic, social and political benefits to firms' connected communities. In return, firms have the legitimacy to survive and grow in society. Since society is dynamic in terms of the sources of institutional power and the need for services, and firms have different perceptions about society's expectations towards them, firms have different perceptions about the 'terms' and respond accordingly (Hoque, 2018; Shocker & Sethi, 1974).

Moreover, it is worth noting that with regard to the social contract, some terms are explicit, such as legal requirements, while others are implicit, non-legislated community expectations (Deegan et al., 2000; Gray et al., 1996). The differences between explicit and implicit terms have three causes. First, laws reflect social norms and values, but changes in social norms and values are only slowly and with great difficulty adopted into law systems. Second, legal systems have difficulty remaining consistent, when societal norms and expectations are contradictory. Last, some behaviors which are not accepted by society may not be restricted by laws.

In summary, legitimacy theory suggests firms should comply with societal expectations, thereby obtaining the legitimacy to survive and grow in society. Legitimacy refers to the perception of actions conforming to social norms, values and beliefs, and these changes based upon time and place. When there are differences between what firms are expected to do by society and what firms actually do, a legitimacy gap occurs. This legitimacy gap, caused by changes in social expectation and the disclosure of previously unknown information, can be reduced by an increase in disclosure. Instead of the legitimacy gap, the 'social contract' is the core of legitimacy theory, containing both explicit and implicit 'terms' firms should comply with. In this study, firms engaging in CSR activities and which have superior CSR performance meet the societal expectations necessary to obtain and enhance their legitimacy in order to survive and grow in society.

2.5.2 Legitimacy theory and Stakeholder theory

There are many similarities between legitimacy theory and stakeholder theory, in that both consider firms as part of a broader social system that firms influence and are influenced by. Moreover, Gray et al. (1996) point out that legitimacy theory is a variant of stakeholder theory; that firms have 'social contracts' with various stakeholder groups and comply with 'contract terms' to obtain legitimacy for their survival and growth in society. In legitimacy theory, the notions of society and societal expectations are involved, however, they are not clearly defined. However, stakeholder theory identifies different stakeholder groups and suggests they are different regarding their power and influence. Therefore, researchers tend to use both legitimacy theory and stakeholder theory to investigate corporate disclosure practice, and point out that the importance of compliance with certain 'social contracts' depends on the influence of stakeholder groups (Hoque, 2018). Therefore, firms should identify important 'manageable' issues or events and the stakeholder groups that have the attributes that can confer or withdraw legitimacy on these issues or events (Neu et al., 1998). When legitimacy is threatened, firms should embark on a legitimating process aimed at those groups (O'Donovan, 2002).

Overall, legitimacy theory and stakeholder theory share some similarities, however, legitimacy theory explores societal expectations in general, while stakeholder theory focuses on the expectations of particular groups in society. Legitimacy theory explains corporate disclosure practices, while stakeholder theory provides some insights by clarifying the groups forming 'society'. Combined with stakeholder theory, legitimacy theory suggests firms should strictly comply with the 'contract terms' related to stakeholder groups in order to gain legitimacy for their ongoing survival and growth. In this study, firms participate in CSR activities for legitimacy enhancement resulting in higher profitability and lower risks. Consequently, investors tend to offer low cost capital with better contracting terms to finance these firms.

2.5.3 Strategies for obtaining, maintaining and restoring organizational legitimacy

When managers perceive firms' legitimacy is threatened, they have a number of strategies they can use to legitimize firms' survival and growth. As discussed above, disclosure is remedial way to restore legitimacy, therefore Dowling and Pfeffer (1975) propose a 'communication' strategy. They suggest that the communication between firms and stakeholder groups is important to adjust the definition of societal legitimacy conforming to firms' practices, output and values, as well as to identify firms with symbols, values and institutions having a strong base of legitimacy (Hoque, 2018).

Furthermore, based on the 'social contract' perspective, Lindblom (1994) identifies four tactics to legitimize firms' survival and growth. Firstly, firms should educate and inform stakeholder groups to demonstrate that the changes in corporate performance are in line with societal values and expectations. Secondly, firms should educate and inform stakeholder groups to perceive corporate performance as conforming to societal values and expectations. Thirdly, firms should emphasize their fulfillment of societal expectations in other fields to distract the public's attention from current issues or events which threaten firms' legitimacy. Lastly, firms should illustrate that some societal expectations are not reasonable with regards to expectations of corporate performance.

Suchman (1995) and O'Donovan (2002) point out that firms should adopt differentiated strategies to gain, maintain and restore legitimacy. However, there is no clear theoretical guidance in this field. Disclosure is an efficient strategy to help firms obtaining legitimacy, while maintaining legitimacy is much easier. The adopted strategies can be classified into two kinds namely, perceiving future changes and protecting past accomplishments (Ashforth & Gibbs,1990; Hoque, 2018; O'Donovan, 2002; Suchman, 1995). Regarding restoring legitimacy, Suchman (1995) argues that the strategies for obtaining and restoring legitimacy are similar in some ways and that firms should reactively respond to unforeseen and immediate crises.

In summary, there are a number of strategies for gaining, maintaining and restoring firms' legitimacy. First, disclosure is considered as an efficient way to reduce the legitimacy gap between stakeholder expectations and actual practices of corporate performance. Second, corporate performance should conform to societal values and expectations. Third, firms should manipulate stakeholder perceptions towards corporate performance in order to conform to social values and expectations. Fourth, firms should emphasize their accomplishments which meet societal expectations in order to gain legitimacy. Fifth, firms should inform stakeholders that some societal expectations are too difficult to be fulfilled. These strategies do not distinguish the differences between gaining, maintaining and restoring legitimacy. Hoque (2018) points out that it is much easier for firms to maintain legitimacy than gain and restore legitimacy and that the strategies for gaining and restoring legitimacy are similar.

In this study, firms comply with the social contract to gain and enhance legitimacy by engaging in CSR activities and disclosing CSR information. Firms' superior CSR performance fulfills stakeholders' expectations while CSR disclosure works as a communication channel allowing firms and stakeholder groups to reduce the legitimacy gap. The next section, 2.5.4, uses legitimacy theory to explain the impact of CSR engagement and CSR disclosure on firms' financial performance and risks via organizational legitimacy.

2.5.4 The implementation of legitimacy theory in CSR engagement and CSR disclosure

According to Mousa (2014), there is a social contract between firms and society in that stakeholder groups within society provide business resources for firms and, in return, firms provide products and services to fulfill the needs of stakeholder groups. Based on legitimacy theory, this study explores the relationship between the quality of CSR disclosure and firms' external financing. It demonstrates how firms gain, maintain and repair legitimacy through CSR engagement and CSR disclosure, which impacts on financing costs and contracting terms. The following paragraphs present

an explanation about firms' motives and the impact of CSR engagement and CSR disclosure on firms' external financing.

2.5.4.1 The implementation of legitimacy theory in CSR engagement

The organizational legitimacy theory predicts that firms should serve the needs of stakeholder groups to gain, maintain and restore legitimacy for survival and growth within society. Therefore, firms should proactively engage in CSR activities and have superior CSR performance. In contrast, if firms fail to respond stakeholders' requirements regarding social and environmental responsibility, the social contract between firms and stakeholder groups tends to be revoked, leading to an increasing legitimacy gap and the loss of legitimacy (Mousa, 2004). As a result, firms cannot survive in society due to the lack of support from stakeholders in terms of business resources. It is noticeable that CSR engagement brings benefits and costs. Superior CSR performance enhances firms' legitimacy, resulting in an increase in profitability and the reduction of firms' risks, while CSR engagement is very costly and may reduce firms' profitability and increase firms' risks in the short-term.

To sum up, organizational legitimacy theory mainly focuses on how corporate conduct meets societal expectations to gain, maintain and repair firms' legitimacy. In order to comply with societal contracts, firms should serve the needs of stakeholder groups through CSR engagement and superior CSR performance. This study aims to reveal how investors perceive firms' CSR engagement and performance regarding legitimacy by testing the relationship between CSR performance and firms' external financing costs and contracting terms. By participating in CSR activities and having superior CSR performance, firms tend to have enhanced legitimacy and obtain more support from stakeholder groups, resulting in higher profitability and fewer risks. Consequently, investors tend to offer cheaper capital with better contracting terms.

2.5.4.2 The implementation of legitimacy theory in CSR disclosure

Legitimacy theory is widely adopted as an explanatory theory in CSR disclosure (Wilshurst & Frost). It suggests communication and CSR practices are important to gain, maintain and repair legitimacy (Dowling & Pfeffer, 1975). Managers tend to proactively respond to societal expectations by participating in CSR activities and disclosing CSR information (Fernando & Lawrence, 2014 ; O'Donovan, 2002). Therefore, managers, having an information advantage regarding their firms, tend to issue CSR disclosure to show their firms' effort in CSR issues (Dowling & Pfeffer, 1975). Meanwhile, managers may also use CSR disclosure to persuade stakeholders to accept their view of society (Amernic, 1992). Thus, CSR disclosure not only reflects but also constitutes a wider set of societal values (Dyball, 1998).

Firms which have superior CSR performance complying with societal contracts tend to continuously disclose their CSR information (Mousa, 2004). They tend to issue high quality CSR reports to build positive corporate image, demonstrate regulatory compliance, and maintain the firms' legitimacy. As a result, firms can differentiate them from rivals and experience an increase in profitability and a reduction of risks. Furthermore, firms tend to disclose positive CSR news to enhance their legitimacy and refrain from disclosing negative news to defend their operational legitimacy (Chu et al., 2013; Fernando & Lawrence, 2014). The positive CSR information shows firms compliance with social contracts, resulting in them obtaining legitimacy. Consequently, firms can obtain stakeholders' support in terms of business resources, which enhance profitability and lessen firms' risks. Negative CSR disclosure shows firms failing to meet social expectations, which threaten their legitimacy. As a result, firms are less likely to gain business resources from stakeholders, which leads to a reduction in profitability and increases firms' risks. It is noticeable that the conservatism principal is a prudence principal suggesting firms should be more cautious about recognizing good news than bad news (Basu, 1997). In this thesis, firms should adopt conservatism principal to disclose negative CSR information providing reasons for poor CSR performance, to reduce the likelihood of being sued

in the future.

In summary, legitimacy theory suggests CSR disclosure is used as a means of communication to maintain and enhance firms' legitimacy by both reflecting and constituting societal values. Positive/negative CSR information may enhance/reduce firms' legitimacy to obtain/lose stakeholders' support, resulting in higher/lower profitability and lower/higher firms' risks.

This study investigates the impact of CSR disclosure on firms' external financing and aims to show how CSR disclosure influences firms' legitimacy, affecting firms' future performance and risks and how investors respond regarding their external financing. Legitimacy theory predicts firms can gain, obtain and restore legitimacy through actual CSR performance and/or impression management about CSR performance. As discussed in section 2.5.4.1, actual CSR performance covered in CSR disclosure influences investors' perceptions about firms' risks and future performance though stakeholders' support. Superior CSR performance meets the needs of stakeholders, which enhances legitimacy and increases the availability of business resources, resulting in higher profitability and lower risks. Accordingly, firms tend to access financing more easily with lower costs and better contracting terms.

From the perspective of disclosure, CSR disclosure manages stakeholders' perceptions about firms' legitimacy by reflecting and constituting social norms and values. CSR disclosure as a means of communication manages stakeholders' perceptions about firms' CSR performance. Firms tend to disclose positive CSR information and refrain from disclosing negative CSR information to build a positive corporate image that complies with social contracts. By gaining more business resources, firms are expected to be more profitable and less risky, and investors tend to offer capital with lower costs and better contracting terms. Meanwhile, CSR disclosure may persuade and educate stakeholders to accept managers' perceptions towards social norms and values resulting in a reduced legitimacy gap. Through this

method, firms can enhance their legitimacy, which leads to better financial performance and attracts more investors.

2.5.4.3 Implementation of legitimacy theory in CSR engagement and CSR disclosure in China

Hillman (2005) and Li and Zhang (2007) that suggest corporate political strategy helps firms to obtain business resources from a relevant government body, therefore political legitimacy is a strategic resource for firms from which they can build connections with government for better accessing to business resources. This is particularly significant and important in emerging markets, since formal institutions are weak and firms have to heavily rely on informal mechanisms (La Porta et al., 1998; Peng & Heath, 1996). In China, the biggest emerging economy, government has great influence on firms, controlling business resources and developing policies. During recent decades, the Chinese government has developed a series of policies and issued CSR reporting guidelines to promote CSR engagement and disclosure, which signals its attitude towards firm's social and environmental issues (Marquis & Qian, 2014). Thus, CSR issues have become important fields of corporate focus, since responding appropriately to the government's policies enhances firms' legitimacy (Marquis & Qian, 2014; Yin & Zhang, 2012). As a result, Chinese firms can obtain favorable policies, limit government interference and avoid punishment for current and future survival and growth.

Meanwhile, other stakeholders can recognize that firms participating in CSR activities and disclosing CSR performance information therefore meet the moral standards and institutional requirements for generating and enhancing legitimacy (Yin & Zhang, 2012). This is particularly important among export firms and multinational firms in China, since they are required to meet western standards and have international certificates ensuring social and environmental wellbeing. Otherwise, they are not able to enter international markets and cannot survive in the changing business environment.

To conclude, through CSR engagement and disclosure, Chinese firms not only enhance their political legitimacy for obtaining business resources and avoiding punishment from the Chinese government but also gain the legitimacy to enter and compete in the international market. This leads to an increase in firms' overall performance and reduction of perceived risks, which stimulates investors to become more willing to invest resulting in better access to external finance, with lower costs and better contracting terms.

2.5.5 Conclusion

This study uses legitimacy theory to explain how CSR and disclosure gain, maintain and restore firms' legitimacy among Chinese firms. CSR disclosure influences firms' legitimacy via two approaches namely, providing CSR information and disclosure. The former approach suggests firms obtain and enhance legitimacy for survival and growth by increasing stakeholders' support through the fulfillment of stakeholders' needs. With the enhancement of legitimacy, firms are considered as highly profitable and less risky, hence they can better access external financing with lower costs and better contracting terms. From the perspective of disclosure, CSR disclosure helps firms to better inform stakeholders about their efforts in fulfilling social and environmental responsibilities, as well as persuading stakeholders to accept firms' perspectives about social norms and values (Dowling & Pfeffer, 1975). Thus, CSR disclosure reflects and forms social norms and values in order to reduce the legitimacy gap and better comply with societal contracts. Consequently, firms tend to have better financial performance and lower risks, resulting in easier access to external financing with lower costs and better contracting terms.

In China, government and international buyers are two important stakeholders, both having a great influence on firms' CSR engagement and disclosure, resulting in their legitimacy for operating and competing in the national and international market. By engaging in CSR activities and disclosing relevant information, firms can fulfill their needs and get support as rewards resulting from better financial performance and

lower risks. Consequently, investors tend to provide such businesses with lower cost external funds and better contracting terms.

2.6 Conclusion

This chapter reviews four relevant theories adopted in the field of CSR disclosure; agency theory, signaling theory, stakeholder theory and legitimacy theory. These theories suggest that the relationship between CSR and CSR disclosure and a firm's ability to access external financing with lower cost via two approaches, namely CSR information and disclosure. CSR information shows firm's CSR commitment and CSR performance, which invariably enhances stakeholders' support, firms' legitimacy to survive and grow, and reduces litigation risk, resulting in an increase in profitability and firm risk. From a transparency point of view, high quality disclosure means the enhanced monitoring and mitigation of the agency problem, which reduces firm's perceived risk. Consequently, these four theories indicate that firms releasing high quality CSR reports tend to access external financing at lower costs. In Chapter 5 and 6, further discussions about the theoretical frameworks are undertaken with regard to each specific investigation regarding the cost of equity and debt maturity.

Chapter 3 Literature review and research philosophy of the impact of CSR disclosure on external finance

3.1 Introduction

This section reviews prior studies that suggest that disclosure enhances a firm's transparency and reduces information asymmetry, which influences perceived firm risk (Costello & Wittenberg-Moerman, 2011; Miihkinen, 2013; Elshandidy et al., 2018). Disclosure provides information to information users which may enhance their knowledge about the firm, resulting in an increase in transparency and the deduction of information asymmetry (Diamond, 1985; Bushman, 1991). However, the increase of information may also stimulate sophisticated investors to acquire more private information and use their superior knowledge to profit from it, which increases the information asymmetry between sophisticated and unsophisticated investors (Verrecchia, 2001).

This relationship between disclosure and perceived firm risk can be revealed through financial disclosures as well as non-financial, which provide value relevant information (Dhaliwal et al., 2011). In this thesis, I focus on CSR disclosure, which mainly contains non-financial information. This thesis investigates how the quality of disclosure influences a firm's ability to access external finance in terms of the cost of equity and debt maturity. It allows the study of CSR disclosure from two different perspectives, namely stakeholder management and reporting (Clarkson et al., 2013; Benlemlih et al., 2018; Dhaliwal et al., 2014). From a stakeholder management perspective, CSR disclosure contains information about a firm's CSR performance which involves stakeholder management affecting a firm's litigation risk and future performance (Cormier et al. 2009, Oikonomou et al., 2012; Dhaliwal et al., 2014; Koh et al., 2014; Du et al., 2017). From a reporting perspective, CSR disclosure influences a firm's transparency and the information asymmetry between managers and investors, as well as between shareholders and lenders, which affects perceived firm risk

(Sengupta, 1998; Cheng et al., 2014; Dhaliwal et al., 2014; Benlemlih, 2015; Benlemlih et al., 2018; Meyere, et al., 2018).

This chapter is organized as follows: Section 3.2 reviews studies about the impact of disclosure on external finance, offering an in-depth discussion of financial and nonfinancial, mandatory and voluntary, and their impact on external finance. Next, Section 3.3 reviews literature relating to the impact of CSR disclosure on external finance followed by Section 4.3 focusing on prior studies about the impact of CSR disclosure on external finance. The final part of this section, Section 3.5, provides a conclusion.

3.2 The impact of disclosure on external finance

Disclosure has been widely studied in accounting literature, with many studies investigating the relationship between disclosure and a firm's external financing (Botosan, 1997; Botosan & Plumlee, 2002; Armitage & Marston, 2008; Dhaliwal et al, 2011; Fu et al., 2012; Cheynel, 2013; Core et al., 2014, Core et al., 2015). Disclosure affects the firm's perceived risk and future prosperity via information asymmetry and transparency, thus influencing shareholders' and lenders' investment decisions (Botosan, 1997; Richardson & Welker, 2001; Lambert et al., 2007; Cheynel, 2013). However, prior studies come to different conclusions about the relationship between disclosure and a firm's external financing, meaning that the influence of disclosure on investors' estimation of a firm's risks and future performance remains debatable (Botosan, 1997; Verrecchia, 2001; Lambert et al., 2007; Dhaliwal et al., 2014). In line with these studies, this thesis takes CSR disclosure as a proxy for nonfinancial disclosure to investigate its impact on firms' cost of equity and debt maturity among Chinese firms, to clarify how disclosure influences a firms' external financing in an emerging market.

Some researchers argue that disclosure is positively related to a firm's ability to obtain external finance with lower costs and better contracting terms via information

asymmetry, risk sharing and estimation risk (Botosan, 1997; Cheynel, 2013; Dhaliwal et al., 2014). Firstly, increasing disclosure reduces information asymmetry and enhances transparency, which helps investors to assess a firm's risk and predict its future cash flows in a more accurate way (Botosan, 1997; Dhaliwal et al., 2014). The increase in released information helps potential investors to predict future cash flows precisely, which reduces the covariance between a firm's cash flow and the cash flows of stocks in the market portfolio (Botosan, 1997; Core et al., 2014). As a result, this covariance leads to a decrease in a firm's beta and systematic risks, enhancing the firm's ability to obtain external finance with lower financing costs (Core et al., 2014). Furthermore, the decrease in information asymmetry leads to the reduction of agency problems, which lessens the requirement to monitor, resulting in a lower cost of debt and better contracting terms (Kahl et al., 2015; Garcia-Teruel et al., 2010).

Secondly, increasing disclosure attracts more investors to share the risk, lowering the risk for each investor. Brown and Hillegeist (2007) suggest that an increasing amount of information and easier access to information increases the recognition of the firm, lowers the cost of information acquisition and reduces information asymmetry between informed and uninformed investors. Therefore, the firm is likely to increase their reputation among investors and attract more potential investment, resulting in increasing demands for the firm's security and lowering the risk taken by each investor. He et al. (2013) further point out that the increase in disclosure reveals more trading information, which lowers the risk for both informed and uninformed investors. Consequently, the investors' willingness to trade increases, which causes higher demand for security and enhanced market liquidity, resulting in firms having better access to finance at lower costs.

Finally, disclosure signals a firm's quality, which is associated with investors' perceptions of a firm's risk (Verrecchia, 2001). Potential investors interpret the behavior of withholding the firm's information to mean that the information is unfavorable (Verrecchia, 2001). Therefore, investors tend to consider the firm's

quality to be low and information asymmetry high, causing the adverse-selection problem. As an efficient way to mitigate this problem, disclosure encourages stakeholders to engage in a firm's management to enhance monitoring, thereby limiting managers' opportunistic behaviors (Cheng et al., 2014; Dhaliwal et al., 2014). Consequently, the reduction of adverse-selection problem improves the firm's quality and lowers firm risk, so investors become willing to provide external finance with less required return. It can be concluded that disclosure reduces information asymmetry and estimation risk, and increases risk sharing, resulting in lower perceived risk and more investment.

In contrast to the above arguments, some studies have found that disclosure may lead to an increasing difficulty in accessing finance, due to the higher costs associated with raising information asymmetry (Kim & Verrecchia, 1994; McNichols & Trueman, 1994; Verrecchia, 2001). Firstly, the increase in disclosure may lead to different responses from sophisticated and unsophisticated investors, resulting in higher information asymmetry (Verrecchia, 2011). Sophisticated investors who have more expertise can better understand the disclosed information and so better exploit investment opportunities to achieve higher returns. Meanwhile, this increase in disclosure may stimulate sophisticated investors to seek more private information, which may lead to a further increase in information asymmetry among investors (Fu et al., 2015). The disclosure may, on the other hand, have no impact on a firm's external financing issues through diversification (Hughes et al., 2007; Lambert et al., 2007). According to the diversification of risk, firm risk can be categorized as systematic risk or idiosyncratic risk. Systematic risk refers to a risk that cannot be diversified and is experienced by all firms, while idiosyncratic risk is a risk that can be diversified and differs from one firm to another. Since idiosyncratic risk can be mitigated and eliminated by diversification, the increase of transparency though a high quality of disclosure may not affect firms with great diversification (Hughes et al., 2007).

Researchers have further investigated the quality of disclosure and found that it plays an important role in influencing investors' perceptions of a firm regarding investment decisions (Dhaliwal et al., 2011; Fu et al., 2012; Bertomeu & Magee, 2015; Amiram et al., 2016). These studies show that a higher quality of disclosure is associated with more information being available, which mitigates information asymmetry between a firm and outsiders, as well as between investors and lenders (Botosan, 1997; Lopez-Gracia & Mestre-Barbera, 2015). Consequently, this reduction of information asymmetry enhances monitoring, limits adverse selection and lowers transaction costs, resulting in an increasing willingness to trade the firm's security and a higher market liquidity for that security (Dhaliwal et al., 2014).

However, some studies conclude the opposite; that a higher quality of disclosure may aggravate information asymmetry, such as Richardson & Welker (2001), who investigated financial disclosure and social disclosure, the latter of which is a form of nonfinancial disclosure, and their impact on the cost of equity among Canadian firms. They found that financial disclosure is negatively related, but social disclosure positively related, to the cost of equity. This unexpectedly positive relationship between social disclosure and the cost of equity may be the result of the following factors (Richardson & Welker, 2001; Mangena et al., 2010). First, there are some biases in collecting social disclosure, in that firms experiencing higher social costs tend to self-promote by disclosing more positive than negative information. Since investors understand firms having greater social costs are more likely to window dress the underlying social issues, they tend to require a higher return rate. Second, the disclosure may benefit other stakeholders at the expense of shareholders. The social disclosure contains the information about a firm's engagement in social responsibility. Social engagement is costly and may not be covered by payoffs, which reduce firm value, resulting in a decrease in shareholder wealth. Third, when the observation period is during a recession, a firm is more likely to experience financial distress due to a decrease in profitability and increase in systematic risk. Therefore, the benefits of CSR engagement exceed the costs, leading to a positive relationship between social

disclosure and the cost of equity.

To sum up, the above studies show that the quality of disclosure affects a firm's information asymmetry and transparency, influencing investors' perceptions of a firm's risk and future performance. However, these studies fail to produce consistent results; therefore, for clarification purposes, this study takes CSR disclosure as an example to reinvestigate how the quality of CSR disclosure affects a firm's external financing regarding cost and contracting terms in China.

Recent studies have broken down the disclosure into information components, and they suggest the dominator of each information component plays an important role in the relationship between disclosure and information asymmetry (Crifo et al., 2015; Plumlee et al., 2015; Amiran et al, 2016). The net impact of disclosure on information asymmetry depends on the relative strengths of two forces, namely the asymmetry-increasing force and the asymmetry-decreasing force (Kim and Verrecchia, 1994). The asymmetry-increasing force suggests that, when the news about a firm is released, it is new to both sophisticated and unsophisticated investors. Sophisticated investors can take advantage of their expertise to respond to the news more quickly than unsophisticated investors, resulting in an increase in information asymmetry. The asymmetry-decreasing force, however, indicates that some released information is new to unsophisticated investors but is already known by their sophisticated counterparts and, therefore, disclosure reduces information asymmetry. Thus, it is necessary to investigate the quality of disclosure and its impact on firm risk in a more comprehensive way by breaking down disclosure into information components and exploring their relationships with firm risk. This investigation will test the link between the quality of disclosure and a firm's ability to access external financing in terms of low costs and better contracting terms, and allow the researcher to explore information related information content and credibility in more depth.

It is worth noting that the cost of disclosure may be an important factor in determining whether to disclose, what to disclose and how much to disclose. A managers' main objective is the maximization of firm value, which motivates them to disclose more information in order to access external finance with lower costs (Botosan, 1997; Cheynel, 2013; Core et al., 2014; Plumlee et al., 2015). However, if the disclosure is voluntary and the cost exceeds the benefit of disclosure, managers may choose to partially disclose or even not disclose for fear of being penalized by investors (Verrecchia, 1983; Wagenhofer, 1990; Depoers, 2000). For instance, over-disclosure may leave the firm's operation too transparent to its rivals and the tax authorities, which may lead to a loss of competitive advantage and a reduction in the ability to evade or elude taxation (Moro et al. 2015; Ellul et al. 2016). Therefore, managers tend to disclose information in a cautious manner in terms of the quality, quantity, completeness and timeliness of disclosure, in order to achieve a desirable response from investors.

To sum up, disclosure has an influence on a firm's external financing issues via information asymmetry, perceived risk and the degree of investors' engagement. Quality disclosure provides more information, which enhances a firm's transparency and reduces information asymmetry, mitigating the adverse selection problem by increasing monitoring. Consequently, the firm tends to be considered as less risky and will attract more investors to share risk, which lowers required return.

3.2.1 The impact of financial and nonfinancial disclosure on external finance
Disclosures can be categorized into financial disclosure and nonfinancial disclosure, based on whether their reporting contains financial information. Financial disclosure provides information about a firm's financing, profitability and risks. It enhances a firm's transparency and reduces information asymmetry, which lowers the firm's transaction costs and perceived risk, resulting in an increase in the firm's ability to access external finance at lower cost (Richardson and Welker, 2001). Meanwhile, nonfinancial disclosure does not directly provide financial information, but may

contain some value-relevant information. Dhalwal et al., (2011) suggest that, if the information is value relevant, non-financial disclosure can have the same impact as financial disclosure in terms of helping firms to mitigate financial constraints with lower financing costs (Cheng et al., 2014). Consistently, Richardson et al. (1999) argue that nonfinancial disclosure reduces the cost of equity directly, by reducing information asymmetry and lessening adverse selection, because nonfinancial disclosure contains information that can be used to assess a firm's future performance and risk. Richardson and Welker (2001) provide a different view when they investigate the relationship between social disclosure and the cost of equity. They argue that social disclosure is positively related to social performance, which enhances investor preference effects, therefore resulting in a lower cost of equity. This study aims to provide a comprehensive investigation about how CSR disclosure, including both environmental and social information, influences investors' perceptions of a firm's risks and future performance in an emerging market.

Cheng et al. (2014) consider that nonfinancial disclosure provides another communication channel in additional to financial disclosure. They suggest that nonfinancial disclosure enhances the transparency of a firm's governance structure and internal control system, which improves compliance with regulations and the credibility of reporting. Highly credible nonfinancial disclosure further reduces information asymmetry leading to easier access to external finance, with lower costs and better debt contracting terms (Dhaliwal et al., 2011; Garcia-Teruel et al. 2010). Consistent with Cheng et al., Dhaliwal et al. (2014) further argue that nonfinancial disclosure can be a potential substitute for financial disclosure, since it contains information about a firm's future cash flows and risk, increasing transparency and lowering information asymmetry. It is noticeable that financial disclosure is normally mandatory, while nonfinancial disclosure is likely to be voluntary. For managers, nonfinancial disclosure tends to be more flexible in terms of the content, time and method of disclosure. Therefore, managers are likely to issue nonfinancial disclosure to signal their firms' future prospects even if they release a considerable number of

mandatory financial reports (Verrecchia, 2001). In this research, the Chinese market, as the study object, is highly financially opaque. Thus, to investors, nonfinancial disclosure signals a firm's quality, provides additional information and becomes a more important communication channel between insiders and outsiders.

Although financial and nonfinancial disclosures share some common elements, they cannot fully substitute for each other. Richardson and Welker (2001) compare the differences of the interactions between a firm's financial disclosure and the disclosure provided by a third party, and the interaction between a firm's social disclosure and the disclosure provided by a third party. They point out that investors have to heavily depend on financial disclosure when analyst following is low, therefore the relationship between financial disclosure and the cost of equity is mediated by analyst following. Consistently, Botosan (1997) documents a similar finding; that the level of financial disclosure is negatively related to the cost of equity if the firm has limited analyst following. However, positive accounting theory suggests that, as a firm size increases, social disclosure and analyst following also increase, thus analyst following cannot mediate the relationship between social disclosure and the cost of equity. It can therefore be concluded that both financial disclosure and nonfinancial disclosure have an impact on a firm's external financing, but the type of influence is likely to vary.

To summarize, disclosure can be classified into financial disclosure and nonfinancial disclosure, according to the content of the disclosure. Financial disclosure provides a firm's financial information, which improves the firm's transparency and helps investors estimate firm risk and future performance. Nonfinancial disclosure, on the other hand, reduces a firm's perceived risk in two ways: by lowering information asymmetry and enhancing the investor preference effect.

3.2.2 The impact of mandatory disclosure and voluntary disclosure on external finance

As discussed above, disclosure can be categorized into financial and nonfinancial disclosure, based on the information content in business reporting. According to law and accounting standards, i.e. IFRS, GAAP, financial disclosure is mandatorily issued among listed firms, while some nonfinancial disclosures are the choices of managers (Dhaliwal et al., 2011). CSR disclosure is a form of nonfinancial disclosure and can be mandatory as well as voluntary. In 2008, the Chinese Securities Regulatory Commission (CRSC) requested that firms included in the SSE Corporate Governance Composite Index should be cross-listed and that financial institutions should issue CSR reports mandatorily. However, due to vague disclosure guidelines and weak enforcement, this regulation has not been fully implemented, and the quality of CSR reports varies greatly. Chinese CSR disclosure is virtually always voluntarily disclosed. In order to address the nature of Chinese CSR disclosure later, it is clearly necessary to review studies related to mandatory and voluntary disclosures and their influence on the ways in which firms might attract low cost external finance and better contracting terms.

Mandatory disclosure means disclosing all of the information required by laws or regulations. It may include information that increases the concerns of investors and even leads to a negative market reaction (Bertomeu & Magee, 2015). Voluntary disclosure, however, means that managers can decide whether to disclose and, if disclosing, how much, how often and when. Cordazzo et al. (2017) suggest that the interaction between mandatory and voluntary disclosure can be explained by two types of theoretical hypotheses, namely the complementary hypothesis and the substitution hypothesis. The complementary hypothesis suggests that mandatory disclosure enhances the credibility of voluntary disclosure, and thus an increase in mandatory disclosure leads to an increase in voluntary disclosure (Cordazzo et al., 2017; Li & Yang, 2016). Ball et al. (2012) take financial reporting as an example of mandatory disclosure and argue that audited financial reports provide credible

information about a firms' performance, allowing investors to evaluate the truthfulness of previous voluntary disclosures. Therefore, when the quality of mandatory disclosure is enhanced, managers are likely to augment the credibility of voluntary disclosure.

Li and Yang (2016) further explain that high quality financial disclosure provides more useful information for internal evaluation, which leads to increasing demands for voluntary disclosure from investors. Consequently, mandatory disclosure induces managers to release more credible voluntary information. Meanwhile, voluntary disclosure conveys incremental information beyond a firm's financial data, thus increasing transparency and further reducing information asymmetry (Clarkson et al., 2013). Since mandatory disclosure may not cover all of the information available, voluntary disclosure conveys information incremental to what outsiders already know from mandatory disclosure, and so reduces information asymmetry and enhances a firm's transparency (Clarkson et al., 2013; Noh et al., 2019). Hence, voluntary disclosure is likely to complement mandatory disclosure by providing a more comprehensive view of the firm and helping outsiders to better understand mandatory disclosure. In addition, voluntary disclosure works as a signal to differentiate between those firms that are performing well and those performing poorly, and has a long-term effect on a firm's security when it releases the same hard information contained in a later reported mandatory disclosure (Dye, 1990; Cianciaruso and Sridhar, 2018; Clarkson et al., 2013). Voluntarily disclosed information about superior performance cannot be easily mimicked by poor performers, so the additional information can help outsiders to better understand the firm, distinguish it from others and predict its future financial performance in a more accurate way (Clarkson et al., 2013). Verrecchia (2001), Gigler and Hemmer (1999) and Bischof and Baske (2013) support this argument and point out how the increasing requirement for mandatory disclosure may also improve the disclosure environment and encourage managers to provide more credible value-relevant voluntary disclosure as well. Therefore, it can be summarized that voluntary disclosure is informative and provides supplementary information to

mandatory disclosure.

Next, Cordazzo et al. (2017) lead us to the substitution hypothesis, which suggests mandatory and voluntary disclosures are substitutes for each other, which means an increase in mandatory disclosure leads to the reduction of voluntary disclosure (Hemmer, 1998; Fu et al., 2012). Managers who disclose more information mandatorily tend to have less pressure on them to reveal information that they hold privately (Jung & Kwon, 1988; Verrecchia, 1990). Additionally, when outsiders are sophisticated and have their own sources, thus allowing them to acquire private information, along with an increase in analyst coverage, the need for voluntary disclosure decreases. Therefore, voluntary disclosure can be considered as a substitute for mandatory disclosure (Bertomeu & Magee 2015). Noh et al. (2019) investigate the relationship between voluntary earnings guidance and mandatory 8K filings and compare the impact in the UK on profitability before and after the expansion of the 8K requirements in 2004. They argue that firms tend to use both mandatory and voluntary disclosure to convey information to outsiders, and the impact of one type of disclosure depends on the similarities between this type and the alternative type, in terms of content and timeliness. Since both types of disclosures contain information to assess firm risk and future performance, the provision of one type of disclosure may reduce the benefits of another. Moreover, they point out that, due to historical requirements and the reduction of risk, mandatory disclosure is obliged to disclose negative news but voluntary guidance is less likely to restrict this. Thus, the mandatorily disclosed negative news may be balanced by the voluntarily disclosed good news. Consistent with this argument, findings show that guidance is negatively related to 8Ks[5], with a higher quality of disclosure providing more information, which enhances a firm's profitability. Meanwhile, more requirements for the disclosure of good news are included in updated 8K regulations and voluntary guidance. Consequently, firms have less motivation to issue earnings guidance, suggesting a

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[5] According to U.S. Security and Exchange Commission (SEC), firms have obligation to disclose material events or corporate changes, such as bankruptcy and changes in control of registrant, on 8K to inform shareholders. For more details, see https://www.sec.gov/investor/pubs/readan8k.pdf.

substitution relationship between voluntary earnings guidance and mandatory 8K filings. This notion is helpful in underpinning the approach of this research regarding the relationship between financial disclosure and CSR disclosure, and how CSR disclosure influences a firm's estimation of risk and future performance, reflected by external financing costs and contracting terms.

It is notable that some biases exist in disclosure (Einhorn & Ziv, 2011). Firstly, voluntary disclosure is not necessarily truthful. In many studies, the underlying assumptions are that investors are rational and interpret any withheld private information as bad news, therefore firms should fully disclose their private information to signal their quality (Grossman & Hart, 1980; Grossman, 1980; Milgrom, 1981). However, due to disclosure costs and investor skepticism about the endowment of a firm with information, firms tend to disclose favorable information and withhold unfavorable facts. Hence, these studies assume that the voluntarily disclosed information should be credible. In fact, this assumption is likely to be applied to disclosures describing past events which are verifiable, but it is hard to ascribe credibility to disclosures about future events which are less verifiable: for instance the management's intentions and beliefs. Secondly, managers may manipulate their reports to meet a mandatory disclosure threshold when the firm performance reaches a certain level (Dye, 2002). For instance, managers are likely to adopt aggressive revenue recognition practices and report the results accordingly, which leads to disclosure bias in mandatory disclosures (Fischer & Verrecchia, 2004).

To sum up, mandatory disclosure has to follow the requirements for disclosing information, which leaves limited opportunities for managers to reveal their real motives for manipulating the information disclosed. Contrarily, voluntary disclosure tends to be more flexible regarding disclosure quantity, quality, completeness and timeliness. Thus, the motivation for providing additional information and the quality of voluntary disclosure can fully reflect a managers' attitude towards the degree of disclosure transparency and urgency in the need for external finance. Therefore, due

to the differences in the nature of disclosure, it is necessary to distinguish between voluntary and mandatory disclosure. The relationship between mandatory and voluntary disclosures may be complementary as well as related to substitution (Cordazzo et al., 2017; Clarkson et al., 2013; Hemmer, 1998; Fu et al., 2012). An increase in mandatory disclosure may lead to more voluntary disclosure, since mandatory disclosure ensures the credibility of voluntary disclosure and stimulates the need for further explanations regarding a voluntary disclosure. However, an increase in mandatory disclosure may lead to a reduction in voluntary disclosure, since more information becomes available to the market and the need for voluntary disclosure is thus reduced.

To outsiders, both mandatory and voluntary disclosures are information sources and their interactions tend to increase the total amount of available information on the market, which may influence a firm's information asymmetry and transparency, impacting on its ability to access external finance with better contracting terms and low costs (Clarkson et al., 2013; Core et al., 2015; Gong et al., 2016). Mandatory disclosures are likely to mainly include financial disclosure, as this directly affects a firm's estimation risk and future cash flow predictions. Therefore, mandatory disclosure is related to a firm's ability to access external finance with lower costs. Voluntary disclosure, on the other hand, is more likely to be nonfinancial and not to directly disclose financial information, but the contained information can be said to be value relevant. Nonfinancial disclosure is incrementally informative and can reduce information asymmetry, enhancing stakeholder engagement and mitigating the agency problem. Therefore, it affects a firm's ability to access finance and lessen financing costs. Thus, both mandatory and voluntary disclosures are helpful in order to ease a firm's financial constraints and lower financing costs through the increased transparency and the reduction of information asymmetry and agency problems.

As discussed above, the nature of Chinese CSR disclosure is more likely to be voluntary. CSR disclosure conveys information regarding CSR performance that is value-relevant and signals a firm's quality and risk. It is complementary to financial disclosure, providing incremental information and revealing a firm's willingness to participate in CSR activities and disclose relevant information (Clarkson et al., 2013). As a result, CSR disclosure leads to the reduction of information asymmetry and enhanced transparency. Thus, it is particularly important to investors in a highly opaque market, since outsiders experience great difficulties in acquiring a firm's information in the financial market. Thus, outsiders heavily rely on the information the firm voluntarily discloses, so CSR disclosure becomes an alternative communication channel between them. Due to its short history of development and lack of financial intermediaries, transparency is low in the Chinese market. Therefore, CSR disclosure provided by Chinese firms is an important information source to the Chinese public, especially to existing and potential investors. Thus, it is necessary and interesting to investigate CSR disclosure and its impact on external finance among Chinese firms.

3.3 The impact of CSR disclosure on external finance

CSR disclosure has been widely investigated and findings show that CSR disclosure affects a firm's perceived risks and performance, which are associated with financing issues regarding accessing finance, lowering financing costs and obtaining better contract terms (Dhaliwal et al., 2011; Dhaliwal et al., 2014; Benlemlih, 2015; Benlemlih et al., 2018; Gong et al., 2016). The impact of CSR disclosure on a firm comes mainly from two factors namely, CSR performance information and reporting.

CSR disclosure contains a firm's CSR performance information, which is associated with the firm's external financing issues via estimated risks and expected future performance (Cormier et al. 2009, Dhaliwal et al., 2014; Koh et al., 2014; Oikonomou et al., 2012; Du et al., 2017). First of all, a firm with superior CSR performance is likely to experience less information asymmetry and high levels of transparency,

leading to the reduction of financing costs and better contracting terms. A firm engaging in CSR activities tends to have more ethical concerns and is therefore less likely to engage in earnings management and tends to provide reliable information (Kim et al., 2012). Second, CSR engagement mitigates agency problems and enhances the firm's credibility through stakeholder management. CSR engagement builds mutual trust between the firm and stakeholders and encourages stakeholders to engage with the firm's management, thus enhancing monitoring and internal control, resulting in efficient usage of internal resources and so lowers transaction costs and limits agency problems (Jones 1995; Cheng et al., 2014). As a result, the firm's creditworthiness is enhanced, allowing the firm to gain a high credibility score among rating agencies (Attig et al., 2013). Third, superior CSR performance information increases the firm's profitability by showing the firm's commitment to CSR engagement and building a positive reputation to gain the trust and support of stakeholders (Ng & Rezaee, 2015; Lins et al., 2017). For instance, a firm with superior CSR performance attracts quality employees and keeps its turnover rate at a low level; it can obtain and maintain competitive advantages; and it has high customer awareness and enhanced sales (Dhaliwal et al., 2012; Surroca et al. 2010; Cormier et al. 2009; Cheng et al., 2014; Servaes & Tamayo, 2013; Ramasamy et al., 2013). Lastly, a firm with superior CSR performance has high moral standards that help it to identify and prevent risk, build a positive reputation and accumulate positive moral capital, leading to a reduction in litigation risk (Koh et al., 2014). When a business crisis occurs, this moral capital reduces the negative impact of the crisis and minimizes penalties.

It is notable that CSR engagement may destroy a firm's value and lead to an increase in agency problems. CSR engagement is not a straightforward method of enhancing a firm's value, since it is costly and may alarm investors in the short term (Becchetti et al., 2015). Therefore, CSR engagement may lead to a decrease in profitability and an increase in estimation risks. Managers tend to invest in CSR activities to pursue their personal interests and cover up corporate misconduct at the expense of investors

(McWilliams et al. 2006, Hemignway & Maclagan 2004). Hong et al. (2016) and Fabrizi et al. (2014) suggest managers tend to invest in CSR activities when their compensation scheme is directly linked to CSR performance. Furthermore, entrenched managers, who are powerful and have significant influences in the firm, tend to engage more in CSR issues (Fabrizi et al., 2014), mainly to enhance their personal reputations and avoid stakeholders' penalties through boycotting and media campaigns. Entrenched managers[6] may also engage in CSR activities to enhance satisfaction and supports of non-shareholder stakeholders therefore shareholders face the pressure from these non-shareholder stakeholders and will be difficult to replace managers (Surroca & Tribo, 2008). Thus, entrenched managers engage in CSR activities, which may make agency problems even worse.

From a reporting point of view, CSR disclosure is an important form of nonfinancial disclosure and contains CSR information, which influences a firm's financing issues via reporting and stakeholder management (Dhaliwal et al., 2011, Dhalwial et al., 2014). As a type of nonfinancial disclosure, CSR disclosure contains value-relevant information, which means that it has the same impact as that of financial disclosure on a firm's external financing issues (Dhaliwal et al., 2014). CSR disclosure promotes a firm's transparency and lowers information asymmetry, resulting in easier access to finance with lower costs and better contracting terms (Dhaliwal et al., 2011; Dhaliwal et al., 2014; Benlemlih, 2015; Gong et al., 2016; Wang et al., 2018). Superior CSR performance motivates the firm to release CSR disclosures, while a poorly performing firm may take CSR disclosure as an opportunity to explain its poor performance, which enhances transparency and reduces information asymmetry (Cho et al., 2013, Clarkson et al., 2008; Patten 2002). Meanwhile, CSR disclosure provides incremental information to outsiders, enhancing monitoring, limiting transaction costs and mitigates adverse selection and moral hazards (Connelly et al., 2011). As a result, the willingness to trade the firm's securities increases, enhancing liquidity and reducing

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[6] Due to the agency problem between shareholders and managers, shareholders tend to discipline managers' behaviors while managers tend to neutralize this disciplinary pressure to maintain their corporate control (Ruback & Jensen, 1983).

the firm's financial risks (Botosan, 1997). Additionally, CSR disclosure provides incremental information to supplement financial disclosure and signals a firm's quality, which increases the firm's transparency and allows it to ease financial constraints with low financing costs and better contracting terms (Clarkson et al., 2013; Cheng et al., 2014; Gong et al., 2016).

Lastly, CSR disclosure is likely to catch the public's attention, enlarge media and analyst coverage and attract more investors, thus enlarging the investor base and lessening the risks taken by each investor (Caham et al., 2015; Dhaliwal et al., 2014; El Ghoul et al., 2011). Consequently, firms can access external finance, reduce financing costs and obtain better contracting terms if they commit to disclose the firm's CSR performance information. Nevertheless, it is noticeable that there may be an optimal level of CSR investment from the risk-mitigation perspective (Godfrey, 2005; Ye & Zhang, 2011). When a firm's CSR investment is lower than this optimal level, the increase of CSR investment enhances a firm's performance and reduces risk. However, when a firm's CSR investment exceeds the optimal level, the additional investment cannot generate enough profit to cover the additional costs for the firm, which may destroy value. Bartkus et al. (2002) find that when managers overinvest in philanthropy, firm value is destroyed which leads to un-acceptance of high level of donations by shareholders. Moreover, Goss and Roberts (2009) point out the negative net present value caused by overinvestment in CSR increases firms' business risk. Thus, it can be concluded that the disclosure of CSR overinvestment may lead to a higher estimation of risk and reduce a firm's ability to access finance.

In line with the above studies, some researchers further explore the nature of CSR disclosure and the impact of CSR reporting quality on a firm's estimation of risk and future performance (Dhaliwal et al., 2011; Fu et al., 2012; Richardson & Welker, 2001; Clarkson et al., 2013; Plumlee et al., 2015; Crifo et al., 2015). Dhaliwal et al. (2011) investigated the relationship between the initiation of CSR disclosure and the cost of equity in the US market and found that disclosure increases investors' awareness of

the firm and attracts them to invest, which may lead to a larger investor base for risk sharing. Fu et al. (2012) point out that more frequent CSR disclosure increases the amount of information available to the public, which reduces information asymmetry. These two studies only provide a general view regarding the relationship between disclosure and a firm's ability to obtain cheaper equity. However, the quality of CSR disclosure and its impact on firms' external finance is worthy of further investigation.

In order to fill this gap, some researchers have proposed various methods to measure the quality of disclosure (Richardson & Welker, 2001; Clarkson et al., 2013; Marquis & Qian, 2014; Qiu et al., 2016). For instance, some studies measure the quality of CSR disclosure by adopting CSR disclosure scores from existing well-known databases, such as Bloomberg and RKS (Marquis & Qian, 2014; Qiu et al., 2016). Richardson and Welker (2001) construct a social disclosure index and argue that the level of social disclosure is negatively related to information asymmetry, which leads to a reduction in perceived risk and an increase in investor preference effects. However, they only consider the volume of the information contained in the disclosure, ignoring the content of disclosures. Meanwhile, there are some biases in social disclosure, meaning that the findings do not support their argument.

In line with Richardson and Welker (2001), Clarkson et al. (2013) further categorize environmental disclosure into hard disclosure and soft disclosure, depending on whether the disclosure is objective or subjective. Hard disclosure refers to objective and verifiable quantitative information, while soft disclosure is the opposite, offering qualitative and unverifiable information. Clarkson et al. give more weight to hard disclosure, since such information is difficult and costly to mimic, and so more credible and informative (Liberti & Petersen, 2019). Thus, superior performers tend to release hard disclosure to differentiate themselves from poorly performing competitors (Plumlee et al., 2015). The findings suggest that non-financial disclosure, such as environmental disclosure, provides incremental information signaling and differentiates firms' qualities, which affects investor preference and reduces

information asymmetry or perceived risk. However, it is noticeable that soft information tends to be more accurate and has more extensive coverage. Therefore, some researchers argue that soft information should be considered to be at least as important as hard information (Liberti & Peterson, 2019; Dorfleitner et al., 2016). Additionally, the nature of the information with reference to the content of the information (i.e. favorable information or unfavorable information) that affects investor estimation of firms' future performance and risks is not considered in the above studies (Clarkson et al., 2013, Richardson & Welker, 2001; Liberti & Peterson, 2019).

Recent studies have tried to separate disclosure into different dimensions to better capture variations in aspects of disclosure (Plumlee et al., 2015; Crifo et al., 2015). Plumlee et al. (2015) take the nature of environmental information as an additional information dimension into consideration, and measure disclosure quality through the type of information (i.e. hard information or soft information) and the nature of information (i.e. good news or bad news) simultaneously. Following Hutton et al. (2003) and Clarkson et al. (2008), Plumlee et al. investigate the impact of environmental disclosure on the cost of equity via different dimensions, namely disclosure level, disclosure nature, disclosure type and the combination of disclosure type and nature. Their findings show the quality of environmental disclosure influences a firm's estimation risk and future cash flows via information asymmetry and transparency.

More importantly and more interestingly, Plumlee et al. found that the different combinations of information type and nature affect investors' various perceptions of a firm's risk and performance due to the creditability of the information content. In line with Plumlee et al. (2015), Crifo et al. (2015) have also investigated the relationship between information components and firm value. However, they redefine the information type, depending on whether the information content is about the core business. Hard information refers to information that is core for the business, while

soft information is peripheral. The investigation of Crifo et al. is based on three theories; efficient market hypothesis, social theory and information asymmetry, respectively. The efficient market hypothesis predicts that the market can respond to changes in risk following the new timely information, thus there is no difference in returns when the firm discloses good or bad CSR information. This implies that CSR disclosure is value-irrelevant and has no impact on a firm's value and investment decisions. Social theory, however, suggests that CSR information is value relevant and affects a firm's estimation risk and expected cash flows, but is not efficiently reflected by security prices due to the limited availability of information.

Finally, the information asymmetry hypothesis indicates that investors tend to respond to information of a different nature and type differently, due to risk aversion and skepticism. Thus, CSR disclosure may influence a firm's valuation variously, via estimation risk and expected future cash flows (Corama et al. 2011). The results support the information asymmetry hypothesis, which is similar to the findings of Plumlee et al. (2015). The above two studies provide three interesting points, as follows: that both information nature and type are informative; that there are some interactions between information nature and type; and that the impacts of different combinations of information nature and type on a firm's estimated risk and future cash flows should not be investigated independently. Unfortunately, existing studies do not provide comprehensive discussions on the combination of CSR information's nature and type and their impacts on a firm's external financing issues, regarding cost and contracting terms. Therefore, this paper aims to fill this gap by separating the information factors of disclosure and providing detailed discussions about the impact of each combination of information factors on a firm's external financing issues.

To summarize, CSR disclosure affects a firm's ability to obtain external finance at lower costs and with better contracting terms via two factors, namely stakeholder management and reporting. CSR disclosure contains a firm's CSR performance information, which is associated with the firm's estimation of risks and expected

profitability, via stakeholders' monitoring, support or the withdrawal of their support. Meanwhile, CSR disclosure, as an important form of nonfinancial disclosure, is incrementally informative, which reduces information asymmetry and enhances transparency, thus lowering transaction and monitoring costs and mitigating the agency problem between managers and investors, as well as among investors. As a result, CSR disclosure helps a firm to easily access external finance with lower costs and better contracting terms. This paper builds on and extends the above studies by further investigating the relationship between the quality of CSR disclosure and a firm's external financing in an emerging market, namely the Chinese market. This study seeks to better capture the complexity of CSR disclosure quality and to provide a detailed discussion of the combined impact of information components on a firm's financing issues regarding the cost of equity and debt maturity.

3.4 The impact of CSR disclosure on external finance in China

The core value of CSR has been developed in China for centuries and since 2008 the number of CSR reports has been increasing significantly (csr.mofcom.gov.cn). Behind these phenomena, the government has significant influence on the promotion of CSR and CSR disclosure in China, which is its most important and unique feature in China. Meanwhile, due to the weak enforcement of CSR and it being voluntary in nature, CSR disclosure varies significantly, reflecting firms' attitudes towards CSR, which provides a good setting for investigating the quality of voluntary non-financial disclosure in an emerging market. In addition, the Chinese capital and debt market has significant influence worldwide, in a way that gives it some special characteristics. Compared to a developed market, the Chinese market is highly opaque and strictly controlled by the government, while investors are weakly protected. Therefore, it is worth investigating how CSR disclosure influences investment decisions through providing incremental information for the enhancement of transparency and the signaling of a firm's quality.

This section reviews studies focusing on CSR and CSR disclosure in the Chinese capital and on debt financing (Fan et al., 2007; Jiang & Kim, 2015; Lee et al. 2017; Li et al., 2008; Marquis and Qian, 2014; Wang & Juslin, 2009). It tries to provide a broad view about CSR and CSR disclosure in China and emphasizes the importance and necessity of investigating the relationship between CSR disclosure and external financing, regarding the cost of equity and debt maturity among Chinese firms. This chapter is organized as follows: Section 3.4.1 reviews studies about CSR and CSR disclosure among Chinese listed firms, offering an in-depth discussion of its development, special features and motivations. Section 3.4.2 presents the history and status quo of Chinese capital markets and debt financing, highlights its unique features, and thus revealing that China provides a meaningful and valuable setting for such an investigation. Finally, Section 3.4.3 further reviews the literature about the impact of CSR and CSR disclosure on external finance in Chinese context.

3.4.1 Introduction to CSR and CSR disclosure in China

The core value of CSR has been developed in China for centuries and since 2008 the number of CSR reports has been increasing significantly (csr.mofcom.gov.cn). Behind these phenomena, the government has significant influence on the promotion of CSR and CSR disclosure in China, which is its most important and unique feature in China. Meanwhile, due to the weak enforcement of CSR and it being voluntary in nature, CSR disclosure varies significantly, reflecting firms' attitudes towards CSR, which provides a good setting for investigating the quality of voluntary non-financial disclosure in an emerging market. In addition, the Chinese capital and debt market has significant influence worldwide, in a way that gives it some special characteristics. Compared to a developed market, the Chinese market is highly opaque and strictly controlled by the government, while investors are weakly protected. Therefore, it is worth investigating how CSR disclosure influences investment decisions through providing incremental information for the enhancement of transparency and the signaling of a firm's quality.

3.4.1.1 CSR in China

The concept of CSR originated in the West and was introduced into China at the end of the 1990s. However, the core principles of CSR have a long history and are deeply rooted in Chinese culture (Wang & Juslin, 2009). Wang and Juslin (2009) classify the development of CSR in China in six stages, namely traditional CSR (Confucius's time-1949); dislocated CSR (1949-1983); absence of CSR (1984-1994); the introduction of Western CSR (1995-1999); learning CSR (2000-2003); and engagement (2004-present).

During the traditional CSR stage, Chinese merchants constantly followed and applied the Confucian virtues to pursue a harmonious and responsible business relationship and build a prosperous community. Between 1949 and 1983, the dislocated CSR period, Confucianism was heavily criticized. The Chinese economy was planned and all of the enterprises in China were state-owned. Therefore, firms functioned as a part of the government and the traditional business ethics[7] were replaced by obligations authorized by the Chinese government. These practices have strongly influenced Chinese firms and some of these principles can still be found in current CSR in China.

In 1984, economic reform was implemented, which led to separation between firms and the Chinese government, resulting in the establishment of the modern enterprise system. For a decade, maximizing profitability was the only goal of Chinese firms, which caused many unethical and irresponsible business practices, resulting in serious social and environmental problems and crises. However, some social activists realized the necessity and importance of CSR in China. They organized some CSR activities (i.e. the Hope Project) and the first academic CSR literature, 'Corporate Social Responsibility', was published by Yuan in 1990 (Ying et al., 2007). In the late 1990s, Western CSR concepts were introduced in China and Chinese firms, mainly working

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[7] According to Zi Gong (520-475 BC) regarded as the originator of the 'Confucian Trader', businessman should adopt Confucian theory and apply Confucian virtue of 'yi', referring to righteousness, and 'xin', referring to 'sincerity', into business to gain trust of and build a harmonious relationship with the public (Wang & Juslin, 2009).

in labor intensive and trade-oriented industries, passively participated in CSR assessment and auditing, as required by foreign purchasers. From 1995 to 1999, CSR was considered as a luxury and a trade barrier restricting competitiveness and was resisted by Chinese firms. From 2000 to 2003, CSR was further introduced to Chinese society, with the major players including Chinese academics, NGOs and international organizations. At the same time, the Chinese government showed some interest in CSR, adopting a cautious wait-and-see attitude and proposing, 'The Scientific Development Concept' in 2003 (Xu et al., 2015).

Since 2004 CSR issues have increasingly attracted the concern of the Chinese public due to domestic business ethical scandals, environmental problems and the international movement toward sustainability. CSR engagement has become the consensus in Chinese society. In order to echo the expectations of the public, the Chinese government has developed a series of policies regarding economic development, social welfare and environmental protection to enhance the supervision and governance of firms' activities, in order to build a "Harmonious society" (Li et al., 2013; Jiang & Kim 2015). More importantly, promoting social welfare is one of major tasks of the Chinese government, which largely controls business resources and heavily influences the business environment. Thus, for Chinese firms looking to build political networks, this development is very important: currying favor with government officials is one way to build political connections between Chinese firms and government officials. Firms use CSR engagement as a strategic tool to help government officials accomplish political achievements, and, in return, government officials reward firms with business resources, such as licenses, subsidies and approval for projects (Jiang & Kim, 2015, Li et al., 2008). Lin et al. (2015) have found that firms engaging in CSR activities are more likely to obtain government subsidies compared to firms which do not. Meanwhile, Lee et al. (2017) have revealed that government subsidies are a material influence on CSR disclosure, particularly among non-state-owned enterprises (non-SOEs), suggesting that firms which have a non-governmental background tend to disclose more CSR information to build

political connections and thus gain subsidies. Consequently, it can be concluded that these CSR activities are value-enhancing, and not only export-oriented firms but also domestic firms and state-owned enterprises (SOEs) have been highly motivated to participate.

To sum up, CSR engagement in China has some unique features in terms of historical development, participants and motivations, revealing the pervasive role of the Chinese government in economic and business environments. Hence, the Chinese market provides a very interesting setting in which to explore CSR and its impact on firms' financing issues in China. This study investigates the impact of CSR on firms' ability to access external finance with low costs and better contracting terms, in order to reveal Chinese investors' attitudes towards CSR.

3.4.1.2 CSR disclosure in China

CSR disclosure in China has a relatively short history and is at a preliminary stage. The Chinese government plays a very important role in promoting CSR, as well as in CSR disclosure (Wang & Juslin, 2009). Marquis and Qian (2014) point out that the Chinese government plays a very important role in promoting CSR disclosure and that by using business resources as rewards, it encourages firms to engage in CSR activities and disclose relevant information. The Chinese government has a dominant influence in the domestic economic field but has weak legal enforcement, therefore Chinese officials tend to use informal mechanisms to motivate firms to disclose CSR information in order to show their commitment to social and environmental responsibility through business material resources (La Porta et al, 1998, Peng & Heath, 1996). Taking state subsidies as an example, the Chinese government uses state subsidies to influences CSR disclosure and this influence is stronger among non-SOEs than SOEs (Lee et al. 2017) because, compared to SOEs, non-SOEs perceived as having fewer political connections are less likely to have government support. Thus, non-SOEs are strongly motivated to issue CSR reports to echo government policies with the aim of cultivating political connections in order to gain

financial support. Moreover, due to the concern that CSR serves merely as "window dressing", the Chinese government has enhanced monitoring to ensure firms that increasingly access business resources substantively engage in CSR activities and disclose CSR information (Marquis & Qian, 2014). Consistently, when Gong et al. (2016) compared the CSR disclosure quality before and after corporate initiation, they found that only a few firms quickly improved the quality of CSR disclosure before bond issuance, while all tested firms tended to consistently increase CSR disclosure quality after bond issuance. These findings indicate that Chinese CSR disclosure is less likely to be "window dressing" under stakeholder monitoring.

The historical data about the number of CSR reports issued by Chinese listed firms provide solid evidence to support the arguments of Marquis and Qian (2014) and Lee et al. (2017). Since 2008, the Chinese Stock Regulatory Commission (CSRC), an institution of the State Council of the People's Republic of China, has launched CSR disclosure guidelines and standards to encourage listed firms to disclose CSR information. According to these disclosure guidelines, until the end of 2008 all CSR information was voluntarily disclosed, but from 2009 three types of listed firms have disclosed CSR information mandatorily. These include firms in the financial industry; firms listed on foreign stock exchanges; and firms listed in the SSE corporate governance composite index group. Thus, there has been a great difference in the volume of CSR disclosures before and after 2009. The first CSR report was released in 1999 and from 2004 to 2008 the issuance of CSR reports had grown from 4 to 121, while in 2009 the volume of CSR disclosures reached 533, a sharp increase of more than 4 times the volume released in 2008 [Running & Loving Consulting for common welfare (RLCCW); 2009, Value discovery journey[8], 2015]. In 2014, the amount of CSR reports reached 2357, which is one third of the total CSR reports issued globally (Gong et al., 2016). Later, in 2015, the total number of CSR reports issued was 1703, quadruple the number released in 2009 (csr.mofcom.gov.cn). Meanwhile, from 2007

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[8] Value Discovery Journey is a series of reports issued by a well-established Chinese CSR independent consultation organization, SynTao Sustainability Solutions. http://old.syntao.com/Uploads/files/价值发现之旅 2015.pdf

to 2009 the number of Chinese listed firms providing CSR reports increased from 47 to 364 (Gong et al., 2016). According to Rankings CSR Rating (RKS)[9] in 2018，851 Chinese A-share firms issued CSR reports, including 407 mandatorily disclosing firms and 444 voluntarily disclosing firms. It is noticeable that this is the first time that the number of firms voluntarily disclosing CSR information exceeds that of firms mandatorily disclosing; and that during the 10 years from 2008 to 2018, the number of voluntarily disclosing firms grew significantly. The above numbers reveal that voluntary disclosure of CSR information has become a trend among Chinese listed firms as a result of authority pressure to engage in CSR activities and disclose relevant information (Gong et al., 2016).

It is significant that, due to the weak enforcement of disclosure policies and vague disclosure guidelines, CSR disclosures are substantively voluntarily issued, and their quality varies significantly among Chinese firms (Marquis & Qian, 2014). According to the China WTO Tribune 2009, half of CSR reports disclosed very limited information on specific issues; only 7.8% of CSR reports adopted Global Reporting Initiative guidelines; and only 6.1% of CSR reports were audited by a third-party (Marquis & Qian, 2014). In 2015, the average page number of CSR reports was 31 and only 57 reports (4% of total issued) were audited (Value discovery journey, 2015). It can be concluded that, during the last 10 years, though the number of Chinese CSR reports has increased significantly, the quality of these reports varies widely and is still poor in general, reflecting on three aspects of CSR reporting (Gong et al., 2016). Firstly, the adoption of the GRI standards and external assurance is low. SynTao, a CSR reporting firm, reported that only 5% of 535 CSR reports were audited by an independent third party (Hung et al., 2013). Secondly, the similarity of CSR reports is very high, making it difficult for stakeholders to distinguish firms from each other and assess a firm's risks based on the provided CSR information (Gong et al., 2016). Thirdly, negative information, about which stakeholders are most concerned, is the

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[9] RSK is a well-known rating organization that focuses on Chinese CSR disclosure ratings and is widely used in Chinese CSR studies.

least mentioned information (Gong et al., 2016).

To summarize, during the past ten years, the Chinese government, as the main promoter of CSR and CSR disclosure, has developed a series of policies and regulations to require and strongly encourage Chinese listed firms to participate in CSR activities, as well as to disclose CSR information. The volume of Chinese CSR disclosures has sharply increased; however, the quality of these disclosures still needs to be improved, and the variations among disclosures are significant (Gong et al., 2016; China WTO Tribune, 2009). This study focuses on Chinese CSR issues and aims to give an insight into Chinese CSR disclosure and its impact on a firm's financing regarding costs and contracting terms. It uses CSR disclosure as a form of nonfinancial disclosure to investigate the impact of nonfinancial disclosure on investors' perceptions of firm risk and future financial performance in an emerging market.

3.4.2 Introduction to Chinese capital market and debt financing

The Chinese capital and debt markets have experienced rapid growth during the last 30 years and have become the world's second biggest financial market, with significant influence in global financial markets. However, compared to well-developed markets, such as the US and UK markets, the Chinese capital and debt market bears some unique features, or "Chinese characteristics", which provide an ideal investigation setting to study the impact of CSR disclosure on a firm's external financing. This section provides an overview of the historical development and unique features of the Chinese capital market and debt financing.

3.4.2.1 Chinese capital market

The first Chinese capital market, the Shanghai Huashang Security Exchange, was established in 1921 and was the biggest market in East Asia with regards to its facilities and size (Zhang, 2001). During the 1930s and 1940s the Chinese capital market experienced wars, economic upheavals and political instability and it was

suspended after the establishment of the People's Republic of China in 1949 (Hu et al., 2018). From then on, the Chinese government adopted the planned economy system to strictly control and allocated capital through administrative means. During this period the major functions of banks were facilitating payments and allocating credits, and interest rates were set by the central government. In 1976, economic reforms began which led to a series of transformations from a planned economy into a market-oriented economy, accompanied by the revival of the Chinese capital market. During the 1980s, the government and corporate bonds market was founded, followed by the establishment of Shanghai Stock Exchange (SSE) and Shenzhen Stock Exchange (SZSE) in the early 1990s, which represents the birth of the contemporary Chinese capital market.

During the past three decades, the SSE and SZSE have grown rapidly and have a significant influence on global capital markets. According to the 2012 Yearbook of China Securities and Futures, by the end of 2012, 2484 firms were listed on the SSE and SZSE and the total market capitalization of these two exchanges has created the second largest stock market in the world next to the US (Han et al., 2018; Hu et al., 2018; Chen et al., 2011). The SSE has a main board which lists larger firms, so that it is considered to be similar to the New York Stock Exchange (Jiang & Kim, 2015). During the past three decades the SSE has experienced several phases. According to Hu et al. (2018), from 1990 to 2004 the number of firms listed on the SSE grew substantially, expanding from 8 to 827. Over the following five years, growth stayed almost flat and in 2009 the number of listed firms reached 860. In 2010, slow growth started again, and by the end of 2016 the total number of stocks on the SSE reached 1175, with the total number of shares at 3.3 trillion and a total market capitalization of CNY[10] 28.5 trillion.

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[10] CNY is the symbol of Chinese currency, Renminbi. On December 31, 2016, the exchange rate between CNY and USD is 6.95.

On the other hand, the SZSE has three boards, comprising a main board, a board for small and medium-sized firms, the Small and Medium Enterprises Board (SME Board), and a board for young firms, the Growth Enterprise Market Board (GEM Board) (Jiang & Kim, 2015). Unlike the firms listed in the SSE, firms listed in the SZSE are relatively small, thus the SZSE is considered to be the Chinese version of Nasdaq (Jiang & Kim, 2015). The SME Board was launched in 2004 and lists and trades the shares of small and medium-sized firms, typically those having rapid growth and high profitability. Later, in 2009, the GEM was established, which focuses on even smaller firms and high-tech firms, and has different listing and trading rules compared to the SME Board. During the period from 2005 to 2009 the number of listed firms on the SZSE increased steadily and since 2009 this growth has become sharper. By the end of 2016, 1859 firms were listed on the SZSE, which was significantly more than the number of firms on the SSE.

In contrast to developed markets, China's capital system has some unique features, tightly controlled by the Chinese government, in that it has weak legal protection for investors, is dominated by banks and is relationship-driven (Allen et al., 2005, Chen et al., 2011). Firstly, the Chinese government strictly controls capital markets through IPO and SOEs (Chen et al., 2011). The Chinese IPO process is governed by the China Securities Regulatory Commission (CSRC), which is a branch of the Chinese government. Unlike the registration system used in most developed markets, the CSRC adopts an approval system that endues it to use a quota system limiting the quantity of IPO and to even determine the prices offered, in order to tightly control the IPO process (Jiang & Kim, 2015). During a 14-month stretch from 2012 and 2013, hundreds of firms applied for listing, but none was approved. However, in order to echo recent policies for the further development of Chinese capital markets, the CSRC has confirmed plans to adapt the IPO process into a more registration-based system. Moreover, among the listed firms the majorities are SOEs and by the end of 2004 only 25% were non-SOEs, which were worth CNY 479 billion, or 12.1 percent of total market value (Chen et al., 2011).

As part of the most recent economic reforms, some previous SOEs have been corporatized and privatized, but their main ownership is still controlled by their parent SOEs (Jiang &Kim, 2015). Furthermore, the government retains two key control rights, including the right to make a final decision regarding the disposal of assets and mergers and acquisitions, and the right to appoint chief executive officers (CEOs) (Qian 1995). It is notable that the appointed CEOs in SOEs have multiple identities, not only serving as shareholders but also work as government bureaucrats. Accordingly, the compensation and promotion of SOEs' CEOs is determined not only by financial but also by political and social performance, for instance regarding employment and social well-being (Fan et al., 2007). Therefore, with the increasing promotion of the "Harmonious society", more and more Chinese firms are motivated to participate in CSR engagement and CSR disclosures.

Secondly, the legal environment for protecting investors is weak in China. During the past few decades, the Chinese government has developed a series of laws and regulations such as company laws and securities regulations. However, due to the weakness of legal system, lenders and shareholders are still very vulnerable (Allen et al., 2005). The lack of a comprehensive set of legal rules, weak law enforcement and lenient punishments are three critical issues contributing towards the weak protections for investors and the ineffective implementation of the existing laws (Kato & Long, 2006; Allen et al., 2005; Jiang & Kim, 2015). Fortunately, the Chinese government has already identified these weaknesses and has gradually made progress in improving the Chinese legal environment. For instance, in 2002, a series of regulations and actions were introduced and executed. For example, China's Code of Corporate Governance and unprecedented reviews of 1175 listed firms followed by fines and the dismissals of CEOs (Jiang & Kim, 2015). Hence, it can be expected that, in the near future, the Chinese capital market will have a stronger legal environment, able to better protect the interests of investors. As this study reveals, the mandatory implementation of CSR engagement and CSR disclosure also suffers from the same problems, namely weak enforcement and lenient punishments. Hence, the previous

section argues that CSR disclosure is voluntary in nature, thus offering an opportunity to explore managers' real attitudes towards CSR issues and the degree of firm transparency.

Thirdly, the Chinese capital market is dominated by banks which not only have significant influence in the IPO process through identifying and developing the listing of candidates, but more importantly provide another main financing channel for firms through bank loans, which comprise the majority of firms' debts (Allen et al., 2005; Jiang & Kim, 2015). Moreover, these bank loans are mainly issued by state-owned banks that appoint government officials as managers, meaning that SOEs have better access to bank loans than non-SOEs, which relates to the next point, regarding relationship-driven financing (Du et al., 2017). Thus, for non-SOEs CSR is a shortcut to gain the favor of government officials in order to access business resources, such as cheaper and longer-term loans from state-owned banks. Therefore, this study focuses on the relationship between CSR disclosure and debt maturity among Chinese listed firms to reveal how CSR disclosure helps firms to access external financing with lower costs and better contracting terms.

Finally, the Chinese capital market is relationship-driven, which leads to significant differences among SOEs and non-SOEs, in terms of access to financing with lower costs and better terms (Allen et al., 2005). SOEs are less likely to experience financial constraints than non-SOEs, having access to government subsidies, which lowers their bankruptcy risk during periods of financial distress (Jiang & Kim, 2015). Meanwhile, SOEs have better access to cheap bank loans from state-owned banks compared to non-SOEs, since state-owned banks owned by the Chinese government often lend to SOEs for political, employment and tax reasons, whereas profitability is the main determinant for non-SOEs to obtain bank loans (Brandt & Li, 2003). To partially privatized SOEs, when they experience a serious debt burden, the Chinese government works as an insurance provider by putting forth a series of policies such as taxation, capital injection and debt-for-equity swaps to ease financial constraints

(Chen et al., 2011). Thus, political connections have an influence on a firm's external financing in terms of access, pricing and non-pricing contracting terms. In this study, CSR and CSR disclosure is considered as a tool for firms to build and maintain a relationship with the Chinese government in order to obtain business resources regarding the cost of equity and debt maturity.

Overall, after 30 years of rapid development, the Chinese capital market has become the second largest in world, with significant influence. It has some unique features, including strict governmental control, a weak legal environment, domination by banks, and a relationship-driven market. These features provide an interesting setting to explore the motives of Chinese managers for providing high quality CSR reports and the impact of CSR disclosure on investors' perceptions of firm risk and future performance, reflecting on the cost of equity and debt maturity among Chinese listed firms.

3.4.2.2 Chinese debt financing

In China, debt financing is the most important channel for firms accessing external finance, with some unique features, including very high debt ratios and bank loans in the majority of cases (Jiang & Kim, 2015). According to Fan et al. (2012), from 1998 to 2012, the debt ratio of the median nonfinancial firms was approximately 50%, while the debt ratio of the 25th percentile of nonfinancial firms was around 30%. This evidence indicates that Chinese firms are not afraid to use debt financing due to weak implementation of bankruptcy laws and the low cost of bankruptcy (Allen et al., 2015; Fan et al., 2013; Li et al., 2009). Moreover, as mentioned above, interest rates are strictly controlled by the Chinese government, therefore they cannot be easily adjusted to price firm risk (Chen et al., 2013). Based on these two points, one might question how Chinese lenders control firm risks and whether non-pricing contracting terms such as debt maturity may be used to protect lenders' interests. Therefore, Chapter 6 and 7 focus on Chinese debt financing and provide a detailed discussion of the impact of CSR disclosure on debt maturity among Chinese listed firms.

Section 4 describes the historical development of CSR engagement, CSR disclosure, the capital market and debt financing in China and points out their uniqueness. It can be seen that China provides an ideal setting to investigate CSR disclosure and its impact on firms' external financing regarding the cost of equity and debt maturity.

3.4.3 Impact of CSR engagement and CSR disclosure on external finance in China

Recent studies in the field of Chinese CSR issues are mainly about CSR disclosure, while only a few that have investigated CSR performance (Cumming et al., 2016). The reason is that no CSR performance ratings of Chinese firms are provided by third parties. Therefore, some researchers have to use a proxy for CSR, such as donations, which cannot fully reflect overall CSR performance (for more details, see section 4.2.2.3). On the other hand, some well-known organizations provide the scores of CSR reports issued by Chinese firms, such as RKS ratings[11], which has expanded the studies of CSR disclosure. It is noticeable that these studies focus on the determinants of CSR disclosure rather than its impact (Cumming et al., 2016). In order to extend our knowledge about the impact of CSR disclosure in China, this thesis investigates the relationship between CSR disclosure and external finance, regarding financing costs and contracting terms in the Chinese context.

The literature suggests that CSR disclosure is associated with a firm's ability to access finance through two routes, namely risk and performance (Cheng et al., 2014; Dhaliwal et al., 2014; Dhaliwal et al., 2011) (For more details, see sections 4.2.2.3 and 5.3.3). Firstly, CSR disclosure is particularly helpful for reducing risks for Chinese firms. From a CSR performance perspective, CSR disclosure contains information about a firm's CSR performance which reduces firms' operation risks and litigation risks (Ye & Zhang, 2011). From a reporting perspective, CSR disclosure as a form of nonfinancial disclosure enhances transparency and reduces information asymmetry.

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[11] RKS ratings are known as Rankins CSR Ratings provided by Rankins Global, a well-known consultant and third-party rating agency in China. RKS is a database focusing on CSR reports released by Chinese firms and is widely adopted in Chinese CSR studies.

As mentioned previously (for more details, see section 3.4.2), the opacity level of the Chinese market is high, which means that Chinese investors have great difficulties obtaining firms' CSR information, which contains value-relevant information that can reduce information asymmetry, lowering firms' risks (Dhaliwal et al., 2014). When firms disclose CSR information, they release their private information to the public, which allows them to build an alternative communication channel with investors, apart from financial disclosure (Cahan et al., 2016; Clarkson et al., 2013; Hung et al., 2013). The effect of CSR disclosure on reduction of information asymmetry is particularly significant when firms or markets are highly financially opaque (Dhaliwal et al., 2014). Furthermore, Gong et al. (2016) find a negative relationship between the quality of CSR disclosure and cost of corporate bonds among Chinese firms. Their findings support the argument of Clarkson et al. (2013) that CSR disclosure is incrementally informative, which reduces information asymmetry between firms and investors. Additionally, high quality CSR disclosure increases investors' awareness of firms which enlarges the investor base resulting in risk-sharing (Wang & Li, 2015).

Secondly, prior studies have investigated the relationship between CSR disclosure and firms' financial performance. However their findings are not consistent (Chen et al., 2018; Dhaliwal et al., 2011; Orlitzky et al., 2003). Wang and Li (2016) focus on the first-time standalone CSR reports in China and find a positive relationship between the initiation of CSR disclosure and firm value. They suggest that CSR disclosure increases investors' awareness and attracts more investment. With an increase in investors and improved risk-sharing, future cash flows can generate more value to every investor. They also point out that CSR disclosure signals a firm's superior CSR performance which positively affects their expected future cash flows. Moreover, CSR disclosure is a strategic tool for obtaining government supports to enhance financial performance (Jiang & Kim, 2015). Firms respond to the Chinese government's CSR policies by issuing high quality CSR reports and expect the Chinese government to reward them with favorable policies and business resources, such as state subsidies or government project (Jiang & Kim, 2015; Lee et al., 2017).

However, Chen et al. (2018) draw a contradictory conclusion, saying that CSR disclosure reduces firm profitability. They suggest that mandatory CSR disclosure enhances firm transparency, attracting more public attentions. Subsequently, firms experience more pressures from stakeholders and have to invest more in CSR issues, resulting in overinvestment and a reduction in firms' profitability.

Considering the above two aspects, the relationship between CSR disclosure and financing costs among Chinese firms still remains unclear. Moreover, none of these studies consider the impact of CSR disclosure and contracting terms. Therefore, this thesis tries to extend previous studies by filling in these gaps. It tries to provide a comprehensive study about the quality of CSR disclosure and its impact on external finance, regarding financing costs and contracting terms in the Chinese context.

3.5 Research philosophy

Based on the above literature review, this section provides a short discussion about the ontology and epistemology of this thesis. Ontology refers to the theory about the nature of reality, which focuses on what exists in the world and how the world is structured, while epistemology theorizes the nature of knowledge and how researchers acquire knowledge (Bell et al., 2018, Killam, 2013). This thesis investigates the relationship between CSR disclosure and external finance, basing is ontological position on objectivism and its epistemology on positivism.

3.5.1 Ontology: Objectivism

Objectivism is an ontological position that sees social phenomena and their meanings as external facts that are beyond social actors or their influence. It implies that the existence of social phenomena is independent of observers, existing with or without their awareness, and that there is only one true social reality (Bell et al., 2018). Objectivists believe that the social world is constructed by solid, granular and relatively unchanging 'things' (Burrell & Morgan, 1979). Since social and physical phenomena are considered as existing independently, objectivists suggest social

researchers should study social science in the same way as natural researchers do (Saunders et al., 2009). Thus they tend to observe measurable factors to generalize law-like patterns or disciplines to discover the truth about the social world and attempt to detached their own values and beliefs from their observations and activities throughout the research to minimize potential bias. It is noticeable that objectivists further point out that subjective factors also construct social phenomena, which form reality, but that these can only be investigated when they are associated with overt behaviors (Diesing, 1996; Platonova, 2014; Saunder et al., 2009).

This thesis seeks to explore the relationship between CSR disclosure and external finance. According to Cronje and Coletto (2015), disclosures are classified into statutory and contextual disclosures. Statutory disclosure is generated by statutory reporting practices based on disclosure rules, including the Conceptual Framework (IASB, 2012), International Financial Reporting Standards (IFRS), and statutory regulations. It includes a statement of financial position and notes, a statement of comprehensive income and notes, and a statement of cash flows. Contextual disclosure, on the other hand, is generated by contextual reporting practices, one typical example being CSR disclosure. Cronje and Coletto (2015) suggest that contextual disclosure tends to be associated with subjectivism so that CSR disclosure is inclined towards subjectivism. Meanwhile, external finance is an observable and measurable social phenomenon that exists independently of the human mind and is determined by the equilibrium of the capital market. As discussed above (for more details, see section 3.2), CSR disclosure reduces information asymmetry, which significantly influences investors' perceptions towards firm performance and risks determining the demand for firm securities in the market. Therefore, according to Platonova (2014), the ontology of the study regarding the relationship between CSR disclosure and external finance is objectivism.

3.5.2 Epistemology: Positivism

Positivism relates to objectivism and considers social entities to be as real as physical objects and natural phenomena (Croje &Coletto, 2015; Saunders et al., 2009). Positivists adopt an existing theory to develop hypotheses and further develop the theory by confirming or refuting these hypotheses (Saunders et al., 2009). They strictly follow a deductive method by using credible and meaningful data to measure social phenomena and generalize whether there is a causal relationship in the data. Therefore, positivists normally need large samples and apply quantitative methods of analysis to discover the truth.

As regards to this thesis, it adopts agency theory, stakeholder theory, signaling theory and legitimacy theory (for more details, see chapter 2) which constitute positive accounting theory. Based on these theories, this study attempts to investigate the quality of CSR disclosure and to examine the impact of CSR disclosure on external finance in the Chinese context by developing hypotheses and finding empirical evidence. It seeks to use CSR disclosure as a proxy of nonfinancial disclosure to indicate the underlying mechanism that determines how nonfinancial disclosure influences investors' perceptions of firms' performance and risks during the investment decision process. Therefore, this thesis mainly depends on observable and measurable variables to reveal the objective truth of the relationship between CSR disclosure and external finance. Consequently, this thesis takes a positivist epistemological position.

3.5.3 Approach to theory development and research methodology: Deduction and quantitative method

Theories are used in this thesis to develop hypotheses and present the findings and conclusions. Theories play a significant role in research design and the approach to developing theory is important as well. There are three approaches, namely deduction, induction and abduction (Ketokivi & Mantere, 2010). The deductive approach involves a set of premises which can logically derive the conclusion and when the

conclusion is true, all premises are true. Studies following this approach normally begin with the existing theory and, after reviewing the literature, is used to develop a research strategy to test the theory.

On the other hand, an inductive approach tries to fill the argumentation gap between the conclusion and the observed premises. The first step in induction is data collection, used to explore a phenomenon. Then, based on the data, researchers can form a conceptual framework and generate a theory. Therefore, it can be seen that deduction and induction are opposites in that deduction is a 'top-down' approach while induction is a 'bottom-up' approach. Unlike these two approaches, abduction begins with the observed 'surprising' facts, which are the conclusions that a set of premises are developed to explain. This approach firstly explores a phenomenon to generate a new theory or develop an existing one then collects additional data to test this theory.

Returning to this thesis, it sets out a series of premises about the relationship between CSR disclosure and external finance and seeks evidence to determine whether or not these premises are supported in order to verify and modify agency theory, stakeholder theory, signaling theory and legitimacy theory (for more details, see chapter 4 and chapter 5). Therefore, this thesis adopts the deductive approach. As summarized by Saunders et al. (2009), a deductive approach has three important features. First, the literature should provide explanations about the causal relationship between concepts and variables in the literature, so that hypotheses can be developed accordingly. Second, concepts should be measured. Last, the study can generalize. Considering these features, this study needs to employ a highly structured methodology to ensure reliability. Meanwhile, concepts are likely to be quantitative for measurement reason and a sufficient sample size is necessary to ensure that generalization can occur. Consequently, this thesis adopts a quantitative method.

To sum up, this thesis takes objectivism as its ontological position and positivism as its epistemological position. Therefore, according to the research 'onion' (Saunders et al., 2009), it adopts deductive approach and a quantitative method. The details of the research method and research design are presented in sections 4.3 and section 5.5.

3.6 Conclusion

This chapter reviews some previous studies related to disclosure, CSR disclosure and external finance issues. It identifies some research gaps and provides discussion about the philosophical position of this thesis. The literature review starts with disclosure and its impact on external finance and further discusses the impact of CSR disclosure on external finance in the Chinese context. By reviewing these studies, this thesis finds some points which need to be further clarified and are interesting to investigate. First, most prior studies measure disclosure in a general way and ignore its complexity, an approach that cannot provide a comprehensive understanding of the quality of disclosure and its impact. For instance, Dhaliwal et al. (2011) and Fu et al. (2012) only considered the initiation and frequency of disclosure. Clarkson et al. (2008), Richardson and Welker (2003) investigated the amount of information disclosed, while Conrad et al. (2002) and Soroka (2006) focused on the content of information. These studies only investigated one dimension of disclosure and did not reveal the interactions between information components. In order to fill this gap, Crifo et al. (2015) and Plumlee et al. (2015) classify disclosure by information level, information nature and information type, and consider the combinations of information nature and type, as well as their impacts on firm value. Unfortunately, these two studies fail to provide detailed discussion about the interactions and combined effects of information nature and type which has provided an opportunity for this thesis to investigate these aspects.

Second, existing studies focusing on the quality of CSR disclosure and its impact mainly investigate the relationships between CSR disclosure and firm value, and the relationship between CSR disclosure and financing costs (Clarkson et al., 2008; Crifo

et al., 2015; Plumlee et al., 2015; Richardson & Welker, 2003). Moreover, the findings of these studies are not constant. Thus, this thesis can extend these studies by further clarifying the relationship between CSR disclosure and financing cost and by exploring how CSR disclosure influences contracting terms.

Third, most of prior investigations have involved one dimension of CSR disclosure, for instance environmental disclosure or social disclosure, and only Crifo et al. (2015) considered social, environmental and governance issues at the same time (Clarkson et al,, 2008; Plumlee et al., 2015; Richardson & Welker, 2003). However, as mentioned above, Crifo et al. (2015) only provide a brief discussion about the variation in aspects of CSR disclosure, which needs further clarification. Therefore, this thesis tries to further investigate CSR disclosure in-depth and provides comprehensive view about the impact of CSR disclosure on investors' perceptions towards firm financial performance and risks, reflecting on external finance.

Fourth, most recent studies in the field of CSR disclosure and its impact focus on developed countries and few have investigated this topic in emerging market (Chen et al., 2018; Clarkson et al., 2008; Dhaliwal et al., 2014, Hung et al., 2013; Plumlee et al., 2015). In order to deepen understanding and expand knowledge about this area, this thesis takes China as an example, revealing the unique features of Chinese CSR disclosure and capital market. It tries to discover whether CSR disclosure has the same influence in emerging market as in developed market.

Regarding research philosophy, this study considers the relationship between CSR disclosure and external finance as an objective reality. Accordingly, it takes positivism as its epistemological position and follows a deductive approach to test and develop theories. At the methodological level, it adopts a quantitative method in order to obtain reliable and generalizable findings.

Chapter 4 Impact of CSR disclosures on cost of equity: Evidence from China

4.1 Introduction

Ideally, Corporate Social Responsibility (CSR) focuses on the wellbeing of all stakeholders who are directly or indirectly connected with a firm and emphasizes the importance of integration of a firm in society. CSR issues have attracted much public attention (Dhaliwal et al., 2011). Some prior studies have examined the effect of firms' CSR performance on cost of equity, for instance Ng et al. (2015) and El Ghoul et al. (2011). Dhaliwal et al. (2014) further emphasis the effect of the initiation of CSR report on cost of equity and find a negative relation between them. Recently, some studies have paid closer attention to the quality of the content disclosed in CSR reports. For example, Clarkson et al. (2013) investigated the content of CSR reports by evaluating the type of information. Plumlee et al. (2015) considered the nature of information. I extend this line of research by examining the quality of CSR reports and its impact on the cost of equity in the Chinese context.

Prior literature has discussed the association between CSR engagement and firm performance from different perspectives. From a stakeholder perspective, a firm should serve all stakeholders instead of only shareholders; hence, managers need to consider stakeholders' interests when making business decisions then, in return, stakeholders provide more resources for the business, which increases a firm's profitability and lessens costs (Donaldson & Preston, 1995; Ng et al., 2015). For instance, Surroca et al. (2010) suggest that, by participating in CSR activities, a firm gains the support of stakeholders for intangible resources (such as high customer awareness and low turnover rate) and thus build and maintain competitive advantages, so that the firm can easily outperform its peers financially. In addition, agency theory provides two different perspectives to explain why a firm engages in CSR. The former suggests CSR engagement builds mutual trust and cooperation between firm and

stakeholders to enhance stakeholder engagement and increase monitoring (Jones, 1995). Consequently, a socially responsible firm experiences lower transaction costs and limits the likelihood of manager's short-term opportunistic behavior (Cheng et al., 2014), whilst the latter suggests managers are motivated to engage in CSR activities because they want to pursue self-interests and cover corporate misconduct (McWilliams et al., 2006; Hemingway & Maclagan, 2004). In such cases, CSR engagement is likely to be used by managers to mislead stakeholders' estimation towards firm performance and value. In sum, theories suggest CSR engagement affects firm performance and risk.

Prior studies suggest that CSR performance influences investors' perceptions about the firm in terms of firm value and perceived risk, two components of cost of equity, by signaling its attitude towards social and environmental issues. When a firm has superior CSR performance investors consider it as having high firm value and low risk, therefore they tend to invest and reduce the cost of equity. In contrast, investors perceive the firm which cannot generate enough profit from CSR engagement to cover the corresponding expenses, such as lower firm value and high risk (Ye & Zhang, 2011). Consequently, they become less willing to invest and demand a higher cost of equity. Thus, CSR performance affects the cost of equity.

It has been argued that CSR disclosure affects cost of equity. Dhaliwal et al. (2011) further argue that CSR disclosure allows investors to assess a firm's future performance and risk. As previously discussed, CSR performance has an impact on firm value and risk. CSR disclosure is a communication channel that provides information on a firm's CSR performance to investors. It influences the cost of equity. Furthermore, from a disclosure perspective, Dhaliwal et al. (2011) point out that, as a kind of nonfinancial disclosure, CSR disclosure provides value-relevant information, thus it has the same mechanism as financial disclosure, influencing firm value and perceived risk. By providing more information, CSR disclosure increases investors' awareness, thus enlarging the investor base and reducing information asymmetry,

resulting in higher liquidity and lower transaction costs. In sum their findings show that CSR disclosure has an influence on the cost of equity but how the quality of CSR disclosure affects does this remains unclear and has not been widely investigated.

As discussed in section 3.4.1, CSR and CSR disclosure in China have some unique features, while the Chinese capital market, the second largest in the world, is different from the U.S. and U.K. markets. Therefore, it is valuable to take China as an example to investigate how CSR and CSR disclosure influences investor perceptions towards a firm's risk, reflecting on the cost of equity.

In brief, the findings are as follows. Overall, the level of CSR disclosures is positively associated with cost of equity, which means that providing more CSR informaiton leads to an increase in the cost of equity. This result is inconsistent with the prediction of a negative relation arising from stakeholder theory. After decomposing CSR disclosure into information nature and type, it can be seen that negative information and hard information are most frequently disclosd in CSR reports. Then, the relationship between CSR disclosure classified by the nature and type and cost of equity are examined respectively. The results show that firms providing more positive CSR information tend to have lower cost of equity, while firms having more negative information are likely to experience higher cost of equity. Meanwhile, firms disclosing CSR information which is classified as soft are likely to have a higher cost of equity. These findings indicate that CSR disclosure is related to firm riskiness and should be measured from various dimensions in order to understand disclosures and their complex relations in a more precise way.

This study contributes to the literature in three ways. First, it advances our knowledge of how nonfinancial disclosure affects the perception of firm performance and risk by investigating CSR disclosure and cost of equity. Second, it extends the studies of Dhaliwal et al. (2011) and Dhaliwal et al. (2014) that examined how the presence of CSR disclosure affects the cost of equity. It further investigates the effect of the level,

type and nature of information on cost of equity. Following Plumlee et al. (2015) this study tests the impact of the degree of transparency on investor perception of risk and provides additional evidence on how the level, nature, type and their combinations of disclosure influences investors' perceived risk. Last, this study adds to the literature by providing evidence about the effect of CSR disclosure in the context of an emerging market.

The rest of this paper is organized as follows. In Section 2, it reviews the relevant literature and develops hypotheses. Section 3 contains details of research design, variable measurement, and sample selection. Empirical results and conclusions are presented in Sections 4 and 5.

4.2 Literature review and hypotheses development

This section firstly provides a brief discussion of the theoretical framework, followed by a general review of relevant studies. Next, it discusses the relation between CSR performance and CSR disclosure, and analyses the impact of CSR disclosure on the cost of equity. Then it describes the development of CSR and CSR disclosure in China. Finally, based on the literature review, hypotheses are developed.

4.2.1 Theoretical framework for CSR, CSR disclosure and cost of equity

In this section the application of stakeholder theory and agency theory in CSR and CSR disclosure is discussed.

4.2.1.1 Stakeholder theory

The introduction of stakeholder theory "broadens management's vision of its roles and responsibilities beyond the profit maximization function to include interests and claims of non-stockholding groups" (Mitchell et al., 1997, p.855). Based on this concept, stakeholder theory is developed and suggests that firms should serve the needs of all stakeholders rather than only shareholders, in order to survive and develop in a changing business environment (Freeman, 1984; Freeman, 2000).

Resource dependent theory provides further explanation of significant impacts of stakeholders on a firm's operation. It suggests stakeholders' influences come from the control power of business resources, so their claims are treated with great urgency, and managers are responsive to meeting stakeholders' expectations, including providing higher quality CSR disclosure (van der Laan Smith et al., 2005; Dhaliwal et al., 2014).

Dhaliwal et al. (2014) compare the relationship between initiatives of CSR disclosure and the cost of equity across countries with different degrees of stakeholder orientation and suggest that the communication between managers and stakeholders is very important to a firm, especially when stakeholders have great influence. From an accounting perspective, both financial and nonfinancial disclosures (such as CSR reports) are the primary method to communicate with stakeholders, while from a stakeholder perspective, CSR disclosures are considered part of the dialogues and interactions between firm and stakeholders (van der Laan Smith et al., 2005). Therefore, a firm that discloses a higher quality of CSR information is likely to better understand and serve the needs of stakeholders, so it will capture more stakeholder support, priced in the market in terms of firm value and cost of external finance.

4.2.1.2 Agency theory

Agency theory focuses on the conflicts between principals and agents, and is classified into two types, namely principal-agent (type I) and principal-principal (type II) (Jensen & Meckling, 1976). The principal-agent type suggests that, when agents are hired by principals to provide certain services, they may have conflicts of interest with their employers. In this situation, agents tend to act in their own interests instead of the principals', which leads to an agency problem. Type II refers to the conflicts between the controlling shareholders and minority shareholders. These conflicts are caused by the separation of ownership and control and are influenced by two major factors, namely interest conflicts and information asymmetry (Jensen and Meckling, 1976; Shapior, 2005). According to Dalton et al. (2007) agency problems can be

controlled and reduced through increased monitoring, connecting agents' interests with principals' and replacing agents.

From the investors' perspective, CSR disclosure is value relevant and provides incremental information that reduces information asymmetry between insiders and outsiders (Dhaliwal et al., 2011; Richardson & Welker, 2013). Consequently, it leads to a decrease in monitoring costs, resulting in a lower cost of equity. From a manager's point of view, stakeholders are important and give certain pressures to managers. As a result, managers might provide CSR disclosure with high quality at the expense of shareholders, to avoid managerial risks or damage to their personal reputation (Jizi et al., 2014). In this case, CSR disclosure is a signal of agency problems and, in response, the cost of equity increases.

In sum, both stakeholder theory and agency theory suggest that CSR disclosure affects the cost of equity.

4.2.2 Literature review

First, this section discusses the relationship between CSR performances on disclosure. Then it reviews the studies related to CSR disclosure and its impact on cost of equity. Finally, this section provides a general view about Chinese CSR issues.

4.2.2.1 CSR performance and CSR disclosure

Prior studies show that there is an association between CSR performance and CSR disclosure (Clarkson et al., 2008; Hummel & Schlick, 2016). Hummel and Schlick (2016) categorize firms practicing CSR into good-performing firm and bad-performing firm and discuss the relation between CSR performance and CSR disclosures in groups. Based on voluntary disclosure and legitimacy theory, they suggest a well-performing firm wants to signal its good quality and differentiate itself from competitors by highlighting their superior CSR performance (Clarkson et al., 2008). Badly performing firms tend to provide opaque, incomplete or superficial

information to obscure their poor performance and maintain legitimacy. However, Cho et al. (2013) argue that firms engaging in CSR activities tend to disclose CSR information regardless of their performance. Since CSR disclosures provide an opportunity to explain poor CSR performance, badly performing firm is also likely to issue CSR reports (Patten, 2002). They conclude that a firm engaging in CSR practices is motivated to disclose CSR information and is likely to have high transparency with low information asymmetry (Cho et al., 2013). These studies suggest CSR performance is linked to CSR disclosure; however, the impact of poor CSR performance on CSR disclosure still remains unclear.

4.2.2.2 CSR disclosures and cost of equity

Dhaliwal et al. (2011) use CSR disclosures as a kind of nonfinancial voluntary disclosure to examine its impact on the cost of equity. CSR disclosures enhance a firm's transparency and may also enhance a firm's monitoring by releasing social and environmental information (Cheng et al., 2014). Consequently, CSR disclosures reduce information asymmetry and limit the likelihood of agency costs. Moreover, CSR disclosure as a kind of disclosure preempts private information acquisition, thus reducing the incentive and/or ability for outsiders to acquire private information, resulting in lower information asymmetry (Diamond and Verrecchia (1991). Additionally, Clarkson et al. (2013), Dhaliwal et al. (2011) and Graham et al. (2005) suggest that CSR information is incremental and value relevant and reduces information asymmetry, leading to higher liquidity of securities, larger analyst coverage and more accurate predictions of future performance. They find supportive evidence showing that the initiation of a stand-alone CSR report is negatively associated with the cost of equity (Dhaliwal et al., 2011; Dhaliwal et al., 2014). These findings suggest that CSR information reflects firm risk, which is priced in the market. The focus of their study is the issuance of CSR disclosures, which only touches the surface of disclosure issues and does not provide any analysis of the content of reports. To remedy this, the focus of my study will be the detailed information contained in CSR disclosure.

Moreover, Richardson and Welker (2001) took Canadian firms as a sample to examine the relationship between social disclosure and cost of equity and documented a positive relation, unlike their expectation. They investigated whether this relationship is caused by biases in social disclosure scores, reflecting the completeness and amount of information of reports instead of the content. They assert that, although social disclosures increase firm risk, they may result in potential cost savings and long-term strategic advantages, and also benefit more stakeholder communities. Therefore, they suggest further studies should consider the overall benefit and cost of social disclosure. In this research, Richardson and Welker go further than Dhaliwal et al. (2014) regarding CSR disclosure measurement. Richardson and Welker investigate the level of disclosure but fail to consider the specific characteristics of information which have been widely investigated in the literature and proven to have significant influence (Hutton et al., 2003; Kothari et al., 2009). My study fillls this gap by measuring CSR disclosure from different dimensions.

Some recent studies further investigate the quality of disclosure and its impact (Clarkson et al., 2013; Plumlee et al., 2015). Clarkson et al. (2013) test the link between voluntary environmental disclosures and cost of equity. They classify the information into two types, namely hard and soft. Hard disclosure objectively provides concrete evidence of performance; soft disclosure focuses on firm policies and initiatives that are difficult to verify, such as "CEO statement on environmental performance in letter to shareholders and/or stakeholders" (Clarkson et al., 2013). Therefore, a firm with superior performance tends to disclose more hard information to differentiate itself from those performing badly (Qiu et al., 2016; Clarkson et al., 2008). Later, Plumlee et al. (2015) went step further by considering the influence of the nature of information. They examined the impact of good and bad news on the cost of equity and firm value and found a positive relationship between the quality of environmental disclosures and firm value but failed to document a significant association with cost of equity. These studies investigate the relation between environmental disclosures and cost of equity; however, unlike my study, they only

focus on the specific dimension of CSR issues and environmental disclosure. This study includes both social and environmental disclosures, in order to investigate their variations and retest the relation between the quality of CSR disclosure and the cost of equity.

In sum, prior studies provide mixed results about the relation between CSR disclosure and cost of equity. They suggest the nature and type of disclosure is the cause of the variation (environmental or social, initiation or level). This study focuses on the nature and type of CSR disclosure, which has not been tested before but is closely related to a firm's perceived risk.

4.2.2.3 CSR and CSR disclosures in China

Due to high economic growth in recent decades, China has been the world's largest emerging market and is playing an increasingly important role in the world economy, which has attracted increasing research interest, resulting in a boost in publications of top-level academic journals (Cumming et al., 2016). As discussed in section 4.2.1, both the Chinese public and government are concerned about CSR issues in China and have put in much effort to address this. In academia, Chinese CSR issues have increasingly captured attention, especially in environmental fields.

Many studies have investigated the determinants of CSR in the Chinese context, especially the political connection (Gao, 2011; Lin et al., 2015) and ownership (McGuinness et al., 2017). Few studies focus on the impact of CSR performance, for instance how CSR influences financing costs among Chinese firms (Wang et al., 2011; Ye & Zhang, 2011; Wang et al., 2008). Ye and Zhang (2011) argue that superior CSR performance generates positive moral capital among stakeholders, which leads to a reduction in firm risk. Superior CSR performance functions as an insurance mechanism to protect a firm from negative events, which is consistent with Koh et al's. view that superior CSR performance builds positive moral capital, which can help a firm temper stakeholders' negative judgments and reduce the severity of

sanctions applied (Koh et al., 2014). Additionally, Ye and Zhang further document a U-shaped relationship between CSR and financing cost, indicating that overinvestment in CSR increases a firm's risk. Their study uses the ratio of corporate charitable donations to sales as the proxy of CSR performance, but this measurement cannot present the overall performance of a firm's CSR practices because donation is only one of many indicators of CSR performance. Currently, there is no Chinese firm CSR performance rating database, so it is nearly impossible to evaluate Chinese firms' CSR performances objectively from all angles.

Meanwhile, CSR disclosure in China has developed rapidly during the last decade but is still at a very preliminary stage. Studies in this area are rare as well, most focusing on the determinants of CSR disclosure. Cumming et al. (2016) reviewed 39 studies on CSR in China (including four papers focusing on the influencing factors of CSR disclosure and one discussing the impact of CSR disclosure) and found that most studies emphasis the distinguishing features of corporate governance and CSR in China. Lee et al. (2017) find that Chinese state subsidies have a material influence on CSR disclosure. Compared to SOEs, non-SOEs are more likely to issue CSR reports to show their commitment to CSR engagement in order to appease the authorities and avert scrutiny. Moreover, Hung et al. (2013) point out that CSR engagement and CSR disclosure are strategic tools to build political connections for governmental support and business resources to outperform their competitors. Therefore, even CSR advocates have doubts about the real purpose of CSR disclosure initiatives (Gong et al., 2016). Gong et al., (2016) compare the quantity and quality of CSR disclosure before and after the issuing of bond insurance to Chinese firms. Their findings show that only a few firms begin to issue or increase the volume of CSR reports as well as enhance the quality of CSR disclosure before bond issuance, which suggests that CSR disclosure is less likely to serve as "window dressing".

Hung et al. (2013) examine the relationship between CSR disclosure and information asymmetry among Chinese listed firms. They suggest CSR disclosure is informative that turns private information into public information, which reduces information asymmetry between managers and investors, and therefore firm risk decreases. While Wang and Li (2016) investigate how the first-time standalone CSR report affects firm value in China. They find the initiation of stand-alone CSR report is positively associated with market value, which is consistent with Dhaliwal et al. (2011) and Dhaliwal et al. (2014). The studies made by Hung et al. (2013) and Wang and Li (2016) take Chinese listed firms to test how CSR disclosure influences firm risk and value but, unfortunately, the relationship between CSR disclosure and cost of equity remains unclear. Thus, this study fills the gap identified, by studying CSR disclosure in depth and how its quality influences the cost of equity among Chinese listed firms.

In contrast to the US, no CSR performance ratings of Chinese firms is available to investors through third parties. Currently, many studies use donation size as a proxy for CSR performance in the Chinese context because donation is an essential part of CSR engagement (Ye & Zhang, 2011; Cheng et al., 2015). However, CSR is a much broader concept, including economic, environmental and social issues, so adopting donation size to measure CSR performance is arguable. Dhaliwal et al. (2011) point out that CSR disclosure reflects a firm's confidence in their CSR performance due to limited regulatory guidance. Therefore, investigating CSR disclosure and its impact on Chinese market is very valuable.

In sum, CSR is very important in China and attracts a lot of research interests because China is the largest developing market in the world and faces great pressure on business ethics and the sustainable development of the economy (Cumming et al., 2016; Ye & Zhang, 2011). Currently, studies focusing on the Chinese context mainly investigate the factors influencing CSR issues, while few study CSR disclosure, particularly its impact. Meanwhile, due to the lack of Chinese CSR data, the current measurement of CSR performance and disclosure used in literature is debatable (Hu et

al., 2018; Lee et al., 2017; Li et al., 2016; Ye & Zhang, 2011). This study aims to advance the knowledge of nonfinancial disclosure by extending the study of the impact of CSR disclosure in China. It applies content analysis widely used in disclosure literature and employs the CSR disclosure index designed by Hummel & Schlick (2016) and the measurement proposed by Plumlee et al. (2015).

4.2.3 Hypotheses development

This section provides a detailed discussion of the quality of CSR disclosure on the cost of equity. The quality of CSR disclosure is broken down into three dimensions, namely information level, information nature and information type. After the reviewing relevant literature, hypotheses are developed.

4.2.3.1 Information level

The aim of this study is to advance the knowledge of how differences in the quality of nonfinancial disclosure influence the cost of equity. As discussed in previous sections (for more details, see section 3.4), nonfinancial disclosure provides incremental and value-relevant information which leads to a reduction in information asymmetry between insiders and outsiders resulting in the decrease of firm risk. As a consequence, Clarkson et al. (2013) and Dhaliwal et al. (2014) document a negative relationship between CSR disclosure and the cost of equity and this relationship tends to be more profound when a firm/country has high a level of financial opacity .

As mentioned in previous section (for more details, see section 3.4.2), China has high financial opacity, due to the short history of its stock market and lack of financial intermediaries, so investors rely heavily on information disclosed by a firm (Wang et al., 2008). Therefore, according to previous arguments, CSR disclosure is very useful for investors that need to assess Chinese firms. Therefore, my first hypothesis is as follows:

Hypothesis 1: The level of CSR information is negatively related to the cost of equity among Chinese firms.

4.2.3.2 Information nature and type

In order to better investigate the determinants and impacts of the quality of disclosure, researchers have started to measure the quality of reporting in different dimensions rather than simply by observing the frequency, length and level of disclosure (Van Buskirk, 2011; Ertugrul et al., 2017; Wang et al., 2008). They categorize disclosures by information nature and type (Conrad et al., 2002; Soroka, 2006; Defond & Zhang, 2014; Skinner, 1994; Etteredge et al., 2011; Cornee, 2015; Liberti, 2017; Bertomeu & Marinovic, 2016; Clarkson et al., 2013; Clarkson et al., 2008). By definition, information nature refers to the content of the information, including positive information (good news) and negative information (bad news); information type is classified as hard information and soft information, depending on whether or not the information is verifiable (objective or subjective) (Plumlee et al., 2015; Clarkson et al., 2008; Bertonmeu & Marinovic, 2016). Prior studies mainly focus on one or some aspects of disclosure and few studies investigate this issue in a comprehensive manner (Bertonmeu & Marinovic, 2016; Plumlee et al., 2015). Chen and Ghysels (2011) argue that investors perceive positive and negative news as the increase and decrease in a firm's risk resulting in different investment decisions, while Libert and Petersen (2017) suggest information users consider the credibility and informativeness of hard and soft information differently. Bertonmeu and Marinovic (2016) further discuss the complexity of a combination of information type and nature, pointing out that the type of information is associated with a certain type of nature of information. For instance, bad news tends to be reported in soft disclosure and good news in the form of quantitative statements (Skinner, 1994).

In line with the above studies, Plumlee et al. (2015) measured CSR disclosure from various perspectives to better capture the variations in aspects of CSR disclosure and the impacts of these dimensions on firm value. They break down CSR disclosure into

four measures to more precisely assess the impacts of aspects of the disclosure on perceived firm risk and future performance. The first measure captures overall variation in the quality of disclosures, while the second and third capture variations in the nature of information and the type of disclosure. They argue that both information nature and type are informative, and that systematic differences exist in the types of information related to good news and bad news. Therefore, they suggest that categorizing disclosure by nature and type of information and parsing their combinations may improve our understanding of variations in aspects of disclosure and different influences on firms' perceived risks and performance. However, Plumlee et al. (2015) point out that the combinations of information nature and type have various impacts on firm valuation and that the underlying mechanisms of each combined impact remain unknown.

In addition, Crifo et al. (2015) demonstrate that investors' asymmetric responses to good news compared to bad news and soft information compared to hard information relates to investor behavioral biases. According to the framing effect (Tversky & Kahneman, 1984), investors tend to be risk averse when the news is presented in a positive way, suggesting a potential gain, but are likely to seek risk when the news is presented in a negative way, suggesting a potential loss. Thus, Crifo et al. argue that the framing effect may contribute to the asymmetric effect of good and bad news on firm valuation. It is noticeable that Crifo et al. define hard and soft information as core and non-core information for businesses, which is different from the definitions used by Plumlee et al. (2015), Clarkson et al. (2013) and Bertomeu & Marinovic (2016).

The above studies mainly focus on one or some dimensions of CSR disclosure and investigate their impacts on external financing issues - only a few have considered and investigated the variations in aspects of CSR disclosure, for instance Plumlee et al. (2015) and Crifo et al. (2015). However, they only provide general discussions about the combinations of information nature and type, and their impact on the cost of

equity. Therefore, this research tries to extend these studies by focusing on information nature, information type and their combination in CSR disclosure, seeking to provide a more integrated view of the impact of CSR disclosure on firms' financing issues.

4.2.3.2.1 Information nature[12]

Plumlee et al. (2015) point out that the links between CSR disclosure and cost of equity differ by nature and type of disclosure. Hutton et al. (2003) investigate the relation between information nature and information type and find the frequencies for good and bad news in soft information seem similar but good news is more likely to be accompanied by verifiable forward-looking statements to increase their credibility. These findings suggest three things: investors are interested in the nature of information: the credibility of negative information is considered to be high; regardless of information type, investors tend to be more sensitive to negative information then positive information.

First, investors consider the nature of information to be important. According to stakeholder theory, managers should fulfill and balance the needs and desires of stakeholder groups in order to obtain stakeholder support to create firm value and achieve a high level of financial results. Therefore, investors tend to view positive CSR news as a positive signal of corporate image that will generate moral capital and mitigate negative outcomes resulting in a increase in future cash flows and a decrease in a firm's risk (Groening and Kanuri, 2018). Accordingly, a firm is likely to accelerate the disclosure of positive CSR news to show the support for stakeholders and the expected rewards for investors. Hence, the security that comes with good news will attract investors, pushing up the security prices and in turn leading to more investment. However, investors understand that managers are likely to benefit from

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[12] For instance, disclosure related to 'Training' is considered to be positive; disclosure related to 'Material used' to be neutral; and disclosure related to 'greenhouse gas emissions' to be negative. As argued by Plumlee et al. (2015), there are difficulties in setting a benchmark for comparison, thus the disclosed information can only be classified by the content of the information.

releasing good news. Therefore, they are skeptical about good news and are likely to consider it as credible only when the good news is supplemented by quantitative and verifiable information. In contrast, bad news signals decreasing future cash flows and increasing firm risk (Groening and Kanuri, 2018). Shareholders will not be willing to invest or even sell the securities they have, leading to a further drop in security price and firm value. Therefore, firms tend to hide or withhold negative CSR news to avoid punishment from investors. It is noting that investors understand that a firm's overall financial performance is the result of trade-offs between potential returns from enhanced stakeholder relationships and the potential costs of agency problems (Groening and Kanuri, 2013). Ye and Zhang (2011) highlight a U-shaped relationship between CSR and financing costs. When investment in CSR exceeds optimal level, CSR engagement increases financing costs. Furthermore, Fridman (1977) suggested that the primary aim of a firm is profitability, meaning that CSR engagement which cannot directly generate profit is considered as unethical and tends to be punished by investors. Hence, under such conditions, investors may process positive CSR news as a disclosure of misappropriation of resources and not react positively. By contrast, investors may tolerate the outcomes of negative CSR events because it is more costly to correct these outcomes than to bear the corresponding financial downside. In this case, investors are less likely to react negatively. Hence, the nature of information plays an important role in investment decisions.

Second, investors believe that the credibility of bad news disclosure is likely to be high, regardless information type, soft or hard (Chen & Ghysels, 2011) because the disclosure of unfavorable news is voluntary. It is understandable that managers want to avoid disclosing bad news, due to the market price effect (Richard et al., 1995; Kothari et al., 2009). However, the conservatism of the accounting system predicts that managers tend to disclose more bad news to reduce the likelihood of litigation risks (Richard et al., 1995). Therefore, it is meaningless for managers to hide or lie in relation to any material information in this situation. Then, due to the voluntary nature of unfavorable information, investors have confidence regarding the credibility of the

information, regardless of type.

Last, the responses to positive and negative information are asymmetric, in that information users respond to negative information more strongly than to positive information (Soroka, 2006; Groening & Kanuri, 2013; Groening & Kanuri, 2018). This suggests that investors tend to be more sensitive to losses than gains, thus putting more weight on negative aspects of an object, event or choice, rather than on positive aspects during the evaluation process, resulting in more reaction to negative than positive information (Chen & Ghysels, 2011; Ho et al., 2018; Hutton et al., 2003; Soroka, 2006). Psychology literature suggests that this phenomenon is associated with two things, namely impression formation and cognitive weighting (Soroka, 2006). According to an understanding of impression management, an impression is formed by expectation (or reference point) and may vary based on experiences, as people tend to be slightly optimistic in advance about the reference point. Since individuals tend to be mildly optimistic, when a situation is slightly worse than expected, individuals consider it to be much worse and respond more strongly (Helson, 1964; Sherif & Sherif, 1967). Conrad et al. (2002) point out that expectation works as a benchmark and that good news is anticipated but bad news is more of a surprise. When firms cannot reach the expected level, the market will overreact and punish the stock more severely. Corama et al. (2011) further explain this phenomenon, showing that negative information has a greater diagnostic value[13] (Skowronski & Carlston 1989). In addition, the concept of cognitive weighting suggests that individuals tend to pay more attention to unique or novel information, which is likely to be more extreme (Fiske, 1980). Therefore, individuals consider mildly negative information to be very negative and more informative, reacting accordingly. This is because people respond in a more intense manner than would be considered logical. Therefore, negative

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[13] Skowronski & Carlston (1989) provide an example of diagnostic value. They suggest a good person has to act well most of the time to maintain a good public impression but a bad person only needs to act badly some of the time. Thus, bad behavior is considered to be more diagnostic of negative traits. In studies, negative information is more valuable, enabling investors to identify and estimate risks.

information receives more cognitive analysis[14] (Corama et al., 2011; Taylor, 1991). Likewise, Chen and Ghysels (2011) find that very good news and bad news increase volatility and that the impact of bad news is more severe. Moreover, the mass media is more likely to disclose negative information and overemphasize it, as it responds to audiences' interests, identifying problems and ensuring governments (or companies or individuals) are accountable.

In the economic field, prospect theory suggests that investors are loss averse, which means that they care more about a loss in utility than a gain of the same magnitude (Kanhneman & Tversky, 1979, Soroka, 2006). When bad economic news about the future is released, people cannot reduce expenditures immediately when forced to cut back sharply. In contrast, when good news is released, people increase consumption immediately. Later, when good news becomes a fact, there is no steep increase in consumption, due to the previous strong response. Consequently, the net results show that people's response to bad news is stronger than their response to good news. This theory is supported by the findings of Skinner (1994), and Kothari et al. (2008).

It is significant that these studies do not take the different stages of the business cycle into consideration and ignore the potential differences of the impact of the nature of information under various circumstances. Beber and Brandt (2010) tested lenders' responses towards good and bad news during economic expansions and recessions, arguing that, during economic expansion, when bad news comes, lenders expect future asset values to decrease and risks to increase. Due to risk aversion, they require additional returns as compensation to bear extra risk, and hence require additional discounts on asset price. As a result, the asset price becomes much less than it should be, based on a present-value model. Their findings support the above arguments and indicate that, to shareholders and lenders, the importance of news depends critically

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[14] Taylor (1991) suggests that people tend to give more weight to negative events and information for evaluation. Consistent with his argument, Lin-Hi and Muller (2013) also find the same phenomena in CSR issues.

on both the content of the information and the phase of the business cycle. The next hypothesis is as follows:

Hypothesis 2: Positive CSR information is negatively associated with the cost of equity among Chinese firms, while negative CSR information is positively associated with cost of equity among Chinese firms.

4.2.3.2.2 Information type

The literature suggests that information type is associated with the credibility of disclosure of investors and is classified as 'hard information' and 'soft information' (Plumlee et al., 2015; Clarkson et al., 2008; Hutton et al., 2003). Hard information is normally recorded as numbers, and considered objective and quantitatively verifiable that tends to be standardized (Liberti & Petersen, 2019; Plumlee et al., 2015). Therefore, hard information is likely to be more informative and relatively hard to mimic, leading to a perceived high level of transparency. However, it may not be fully disclosed by some firms, due to the high cost of data collection.

Soft information, on the other hand, normally consists of qualitative data, which is regarded as a subjective and indicative statement (Liberti & Petersen, 2019; Bertomeu & Marinovic, 2016). The collection and use of soft information is normally undertaken in a certain information environment. Information context and collection are parts of soft information and cannot be separated, and are closely related to information coding and usage (Bertomeu & Marinovic, 2016). Therefore, soft information is considered to be more informative and accurate than hard information (Liberti & Petersen, 2019; Dorfleitner et al., 2016). The benefits of adopting soft information are the accuracy and extensive coverage of the information, while the drawbacks include the high cost and difficulty in verification (Plumlee et al., 2015; Libert & Petersen, 2017; Brockman & Cicon, 2013). However, since soft information only shows a firm's commitment but not behaviors, some researchers consider it tends to lack credibility and persuasive (Plumlee et al., 2015). Accordingly, soft information

is likely to have a less impact on the reduction of information asymmetry compared to hard information (Cormier et al., 2009).

Hard information and soft information are alternative and complementary communication channels to each other (Bertomeu and Marinovic, 2016; Agarwal & Ben-David, 2018). In many financial institutions, hard information is given a greater weight in external financing (Agarwal & Ben-David, 2018). Since hard information is difficult and costly to mimic, it can differentiate superior performing firms from poorly performing ones (Roger et al., 2011; Clarkson et al., 2013; Plumlee et al., 2015). Clarkson et al. (2013) investigated the relationship between environmental disclosure and the cost of capital. They found that firms that have superior environmental performance tend to voluntarily disclose hard information to build a positive corporate image and benchmark its performance relative to the industry convincing investors that they are committed and engaged with CSR issues (Clarkson et al., 2013). Consequently, investors are less skeptical and willing to provide capital with lower costs and better contract terms. However, when the marginal costs of disclosing hard information exceed the marginal benefits, firms are more likely to disclose soft information to ease the financial burden of disclosing hard information (Gupta and Israelsen, 2015). Meanwhile, due to the limited information coverage, hard information can be manipulated, which is subtle and almost impossible to detect and verify (Berg et al., 2013). Thus, although hard information is useful to approve an investment, it is not sufficient to ensure investment quality (Agarwal & Ben-David, 2018).

Therefore, as alternative and incremental information source, soft information is thought to be at least as important as hard information (Brockman and Cicon, 2013). Soft information is particularly important if the firm is small and highly opaque or in a highly uncertain information environment, or in industries that have high growth potential (Chen et al. 2015, Brockman & Cicon, 2013). The reason behind this is the serious information asymmetry between insiders and outsiders among small firms

(Chen et al., 2015). Small firms do not have sufficient tangible assets as collateral and cannot provide financial statements to increase transparency and lower information asymmetry. As a result, soft information becomes crucial to investors for assessing firm risk. It is noticeable that soft information may be neither perfectly truthful nor fully devoid of credibility, hence investors require hard information to verify soft information and to provide an alternative channel of communication (Bertomeu & Marinovic, 2016). As mentioned above, the Chinese market is young and lacks financial intermediaries (Liu, 2015; Wang et al., 2008). Therefore, in this highly opaque market, soft CSR disclosure is important to Chinese shareholders and lenders, in order to distinguish high quality firms from low quality ones. To conclude, rational investors should take both hard and soft disclosures into account to evaluate a firm's risk during the investment decision-making process (Uchia, 2011; Gupta & Israelsen, 2015; Berg et al., 2013).

Hypothesis 3: Both hard and soft CSR information are negative associated with the cost of equity among Chinese firms.

4.2.3.3 Combination of information nature and type

As discussed above, both the nature and type of information affect the investment decision through shareholders' and lenders' perceived risk and future cash flows. Plumlee et al. (2015) argue that the impact of the nature of information depends on the information type, and further point out that the combined impacts of the nature and type of information on the cost of equity and future cash flows may vary.

Good news attracts more shareholders, which in turn stimulates the willingness of security trading, resulting in a higher security price. Since managers' compensation is tied up with the firm's value and security price, they have strong incentives to accelerate the disclosure of good news and provide more detailed information about it (Einhorn, 2005). In contrast, risk-averse shareholders and lenders tend to avoid investing in securities with bad news, which leads to a drop in security price and firm

value. Thus, managers are likely to withhold or hide bad news (Kothari et al., 2008). However, some managers realize that these actions violate the conservatism of the accounting system, leading to high litigation costs and personal reputational issues (Richard et al., 1995). When the accumulated hidden bad news reaches a certain threshold, managers can no longer cover it up and it will emerge rapidly and probably chaotically, causing a stock price crash (Kim et al., 2016). Under these circumstances, it is difficult for managers to argue the rationality of withholding or delaying bad news to reduce damage, since they will be penalized through harm to their reputation and job status. Thus, managers, particularly those who have career concerns, are likely to disclose bad news in a timely manner to mitigate their personal liability over litigation or to avoid reduction of the value of their option grants or the price of stocks (Skinner, 1994; Baginski et al., 2002; Lang & Lundholm, 2000).

In addition, it is worth noticing that managers' motives and attitudes towards the disclosure of good news and bad news are fully understood by shareholders and lenders. Hence, shareholders and lenders tend to be skeptical about voluntarily disclosed good news and require additional information to ensure the credibility of the news. In addition, due to the voluntary nature of the disclosure of bad news, shareholders and lenders believe managers are likely to be truthful and have no reasons to lie. It can be concluded that the interactions between information nature and information type are complex and important for the investment decision-making process. However, prior studies in this field are very limited and only provide general discussions about the two combined aspects of information, the nature and type of information, on firm value (Plumleet et al., 2015; Crifo et al., 2015). None of the previous research explores these issues in an emerging market. Along the line of Plumlee et al. (2015), this study aims to fill this gap by taking CSR disclosure as an example to discuss each combination of, and the type and nature of, information and their impacts on external financing among Chinese listed firms.

4.2.3.3.1 The positive hard CSR information

Many studies investigate the impact of positive information on the cost of equity; however, this relationship still remains unclear (Chen & Ghysels, 2011; Roger et al., 2011; Plumlee et al., 2015). Some argue that good news reduces stock volatility, information asymmetry and shareholder uncertainty, which leads to a decrease in firm risk, resulting in a lower cost of equity (Chen and Ghysels, 2011; Amiram et al., 2016; Kim & Shi, 2011). Some suggest that positive information does not have a significant impact on the cost of equity because shareholders doubt the credibility of good news (Plumlee et al., 2015; Kim & Shi, 2011). Shareholders understand that managers are motivated to disclose good news or use a positive tone, meaning that they tend to be skeptical about the truthfulness of the disclosure, reflected in modest increases in stock price or even no response in investment decisions (Lev and Penman, 1990; Verrecchia, 1983; Kim & Shi, 2011; Holthausen & Leftwich, 1986).

Moreover, good news may even lead to an increase in perceived firm risk (Roger et al., 2011; Chen & Ghysels, 2011; Cheng et al., 2017). Fiske (1980) argue that the public tends to focus on unique or novel information – i.e. information that is normally extreme. Unusually optimistic statements or very good news are good examples of the kinds of information that can easily catch shareholders' attention. Their extreme and positive nature may magnify shareholders' skepticism, leading to an increase in litigation risk and stock volatility (Roger et al., 2011; Chen & Ghysels, 2011). Prior studies do not provide consistent conclusions about the relationship between good news and perceived risk, which can tell us whether shareholders are confident about the credibility of positive information. Therefore, it would meaningful to relate the nature of the information to the type of information.

Due to the skepticism about the motive of disclosing good news, shareholders tend to consider good news as credible only if it is presented in a comparable and verifiable way (for more details, see section 5.2.3.3). In return, they will invest in the firm with a lower cost of capital. Consistently, Hutton et al. (2003) find that good news is likely to

be followed with a forward-looking statement which makes it verifiable. Therefore, shareholders consider the news to be informative.

To summarize, managers release good news as a positive signal to show the reduction of a firm's risks and increases in future cash flows. Shareholders understand managers' motivations for disclosing good news, therefore the credibility of the news is crucial for determining shareholders' reactions. Hard information provides verifiable evidence to prove the credibility of good news, therefore shareholders are likely to believe there is a reduction of a firm's risks and an increase in future cash flows, and therefore provide capital with a low cost, in these circumstances. This leads to my first hypothesis on the impact of positive hard information on the cost of equity.

Hypothesis 4A: Positive hard CSR information is negatively associated with the cost of equity in Chinese firms.

4.2.3.3.2 Positive soft CSR information

The credibility of information is important when determining shareholders' attitudes towards certain news, particularly good news. Shareholders understand managers' motives for releasing good news and tend to be concerned about its truthfulness. However, due to the unverifiable nature of soft information, good news disclosed in soft information cannot dispel shareholders' doubts. Consequently, it may not influence the perceived risk affecting the cost of equity. In a highly opaque market, hard information is limited, therefore soft information becomes more important (Dorfleitner et al., 2016). Soft information provides an alternative information channel to increase transparency and reduced information asymmetry. Brockman and Cicon (2013) found that positive soft information may partially neutralize the impact of negative hard information. The Chinese security market is highly opaque, due to its short history and the lack of financial intermediaries (Wang et al. 2008), so Chinese shareholders heavily rely on soft information provided by firms, considering it at least

as important as hard information. This leads to my second hypothesis, focusing on the relationship between positive soft information and the cost of equity.

Hypothesis 4B: Positive soft CSR information is negatively associated with the cost of equity in Chinese firms.

4.2.3.3.3 Negative hard CSR information

Many findings show that negative information is positively associated with the cost of equity via perceived firm risk (Hutton et al., 2003; Brennan et al., 2015). As discussed in the prior section, bad news is a negative signal about a firm's future cash flows and perceived risk, therefore shareholders and lenders are less willing to invest, resulting in a decrease in security price and a firm's value. Meanwhile, the negative information of a firm's CSR performance means more potential high litigation risk and less support from stakeholders, which increases a firm's litigation risk and the decrease in profitability. As a result, shareholders and lenders are less likely to invest. Consequently, firms have more difficulty accessing external finance and have to pay more to shareholders and lenders as compensation for bearing more risks (Chen & Ghysels, 2011; Cheng et al., 2014).

Meanwhile, risk aversion is a common trait of rational shareholders, and their impressions of management as well as cognitive weighting make shareholders become even more cautious and concerned about bad news (Soroka, 2006). Since CSR disclosure is voluntary; it is unnecessary for managers to hide or lie about their firm's poor performance. Therefore, it is reasonable for shareholders to see bad news as highly credible, in the case of both hard and soft information. Consequently, shareholders tend to respond to bad news in a more severe way than good news, regardless of information type (Chen & Ghysels，2011). Consistently, Cho et al. (2013) found that both positive and negative information on CSR performance reduce information asymmetry between insiders and outsiders, but that negative CSR information has a much stronger influence than positive CSR information on the

reduction of information asymmetry. This leads to my third hypothesis about the relationship between negative hard information and the cost of equity.

Hypothesis 4C: Negative hard CSR information is positively associated with the cost of equity in Chinese firms.

4.2.3.3.4 Negative soft CSR information

The literature suggests that soft information is likely to contain more uncertain and negative information, and that shareholders consider negative soft information as highly credible (Bertomeu & Marinovic, 2016). It is understandable that managers have incentives to hide or withhold bad news due to their concerns about career prospects (Baginski et al., 2018; Kothari et al., 2008). However, the conservatism principle suggests that managers need to disclose bad news in a timely manner to mitigate personal liability over litigation. Meanwhile, managers are concerned about being blamed and punished for their firm's poor performance (Hutton et al., 2003) and so are likely to accelerate the disclosure of bad news and provide externally attributed explanations for underperformance. Bertomeu and Marinovic (2016) further point out that, when unfavorable soft information is voluntarily disclosed, it should be considered just as credible as hard information because shareholders think that an unfavorable voluntary disclosure is less likely to be released by an untruthful manager. Thus, they demonstrate that both hard and soft negative information are seen to be highly credible.

Moreover, in a highly opaque market such as China's, soft information plays a significant role in reducing information asymmetry (Chen et al. 2015, Brockman & Cicon, 2013). As a result, shareholders treat soft negative information as if it were hard, and therefore highly credible and informative (Bertomeu & Marinovic 2016). Thus, I predict that negative soft information may have the same impact as negative hard information on the cost of equity. This leads to my fourth hypothesis about the relationship between negative soft information and the cost of equity.

Hypothesis 4D: Negative soft CSR information is positively associated with the cost of equity in Chinese firms.

4.3 Research design, variable measurement, and sample selection

This section includes research design, variable measurement and sample selection. In research design regression model is presented followed by the measurement of all variables. Then, in variable measurement part focuses on the measurement method of cost of equity and CSR disclosure and provides detailed discussion. Finally, in sample selection data source and sample size are presented.

4.3.1 Research design

In order to test the hypotheses, I employ the following regression model:

$COE_{EPi,t} = \alpha + \beta_1 CSRDIS_{i,t} + \beta_2 BETA_{i,t} + \beta_3 ROA_{i,t} + \beta_4 LEV_{i,t} + \beta_5 LSIZE_{i,t} + \beta_5 IND_{i,t} + \beta_6 STATE_{i,t} + + \beta_7 AGE_{i,t} + \beta_8 GROWTH_{i,t} + \beta_9 ANAL_{i,t} + \beta_{10} CF_{i,t} + \beta_{11} LOSS_{i,t} + \beta_{12} INDR_{i,t} + \varepsilon$

4.3.2 Variable measurement

In this section, the measurement of dependent, independent variables and control variables are discussed in detail and summarized in table 5-1.

4.3.2.1 Dependent variables

COE_{EP}[15]. In this study the earnings-to-price ratio (EP ratio) was used to measure the cost of equity, and it has some advantages. First, the EP ratio has much lower data requirements compared to other methods and only requires data on earnings and price to calculate the cost of equity. It is very practical, especially when data availability is an issue (Mangena et al., 2010). Second, EP ratio is widely used in literature (Eliwa et

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[15] The price-earning growth (PEG) ratio is widely used for measuring cost of equity. It is calculated as the square root of the differences between realized earnings of year t and t-1 by stock price. It is noticeable that the differences between earnings of year t and year t-1 should be positive, otherwise it should be excluded from the data. Due to this reason, many observations have to be excluded from the sample. Considering the issue of sample size, this study can not adopt PEG ratio and employ EP ratio.

al., 2016; Botosan, 1997; El Ghoul et al., 2011) and is simple to calculate, therefore it is employed in this study. EP ratio assumes no abnormal earnings growth and is calculated as 1 year ahead earnings, scaled by stock price (Fu et al., 2012). Since a negative EP ratio is hard to interpret, non-profitable firms are deduced from the sample.

4.3.2.2. Independent variables

CSRDIS refers to the quality of CSR disclosure. Following the measurement proposed by Plumlee et al. (2015), this study measures CSR disclosure from different dimensions to capture the variation of reporting quality. It adopts the framework based on the Global Reporting Initiative (GRI G4.0) standards designed by Hummel and Schlick (2016)[16], and the framework is presented in Appendix A. The data was manually collected from firms' stand-alone CSR reports and environmental reports, if issued in 2015. If a firm had not issued either a standalone report or environmental report, its annual report was checked. If a firm had not issued any of the reports mentioned above, it was excluded from the sample. The example of CSR disclosure data collection is presented in Appendix B. In order to ensure the reliability of the data collection, a pilot study was made. In this pilot study, 10 CSR reports were randomly selected. I adopt the CSR index framework of Hummel and Schlick (2016) and follow the data collection method of Plumlee et al. (2015) to collect CSR disclosure data from these 10 CSR reports. In order to check the consistency of the data collection results, I collected the data twice and there was 15 days interval between these two data collections. Meanwhile, the variance of the data was checked.

The nature of CSR disclosure is classified, based on the nature of the disclosure, including positive and negative (Plumlee et al., 2015). It is noticeable that this classification is based on the general nature of information content, rather than on a

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[16] The CSR disclosure index and detailed discussion about content analysis adopted are presented in Appendix A.

firm's response to information content. For instance, "collective bargaining agreements" is regarded as positive and "greenhouse gas emissions" is regarded as negative.

CSR disclosure types are categorized into Hard/Objective and Soft/Subjective, based on whether the CSR information is quantitatively verifiable or indicatively unverifiable. Based on GRI G4.0 and Hummel and Schlick (2016), a CSR disclosure index was developed, containing 14 items, including 12 hard items and 2 soft items. For instance, "material used" is regarded as hard while "collective bargaining agreements" is regarded as soft.

4.3.2.3. Control variables

BETA refers to the firm's beta, which measures the systematic risk that higher levels of systematic risk lead to a higher cost of equity (Botosan & Plumlee, 2002). It is calculated as the regression of the covariance of the stock return with the market return divided by the variance of the market return over 48 months.

ROA refers to return-on-assets, which indicates a firm's profitability. A firm which is expected to be more profitable tends to attract more investment and obtain lower costs of equity. ROA equals net income scaled by the total assets at the beginning of 2015 (De Villier & Marques, 2015).

LEV refers to the leverage ratio, which indicates a firm's bankruptcy risk. Firms that have a higher leverage ratio tend to experience more liquidity risk and default risk, thus they are less likely to obtain a lower cost of equity (Robickek et al., 1973). This is computed as the total debt, scaled by the book value of the total assets in 2015, and the total debt is calculated as the long-term debt plus debt in current liabilities (Brick & Liao, 2016).

LSIZE refers to a firm's size, which is related to a firm's external financing via information asymmetry and the firm's financial performance (Custodio et al., 2013; Johnson, 2003; Fu et al., 2012). Bigger firms are less likely to experience information asymmetry and tend to have better financial performance, and thus are likely to obtain a lower cost of equity. SIZE is the log of a firm's market value of equity at the end of the fiscal year 2015.

IND refers to the industry to which a firm belongs. According to Chan et al. (2014) firms can be categorized into three profiles, namely low, medium and high, based on their sensitivity towards public pressure. Low profile firms are financial institutions. Medium profile firms are found in the fields of energy, industrials, consumer discretionary, consumer staples, health care, information technology, telecommunication services, and utilities. High profile firms are firms in the materials sector such as chemicals, construction materials, containers and packaging, metals and mining, and paper and forest products. In this study I have excluded all financial institutions, therefore all investigated firms are classified into medium and high-profile industries. As a result, IND is a dummy variable; 1 means high profile firm and 0 if otherwise.

STATE refers to a firm's state ownership. As discussed above, the Chinese government controls business resources, therefore state owned enterprises are likely to have better access to these business resources, while non-state owned enterprises do not have this advantage (Jiang & Kim, 2015; Chen et al., 2011). Therefore, non-state owned enterprises are more motivated to engage in CSR activities and disclose relevant information to build and maintain relationships with Chinese officials in order to access these business resources. STATE refers to the shares owned by state asset management bureaus or other state-owned enterprises controlled by the government (Chen et al., 2011). It is the ratio of state-owned shares on total shares.

AGE refers to firm age. Older firms have had more time to learn how best to survive and build a good reputation; therefore, they are considered to be less risky than younger companies (Bahk & Gort, 1993; Cao et al., 2015). This factor is the number of years from the firm's is establishment to 2015 (Lim et al., 2018).

GROWTH refers to firm's growth opportunities. Firms having high growth opportunities tend to have higher liquidity risk, resulting in a higher cost of equity (Guedes & Opler, 1996). In this study, this factor is calculated as sales revenues in year t minus sales revenues in year t-1 divided by sales revenue in year t-1 (Bliss & Gul, 2012).

ANAL is a proxy for outside monitoring since it indicates the analysts' demand for information through either public or private information channels (Core et al., 2015). Thus, firms followed more analysts following tend to have lower cost of equity. This factor is measured by the number group of financial analysis group that were following each firm at the end of 2015 (Baginski & Rakow, 2011).

CF is cash flow from operations, scaled by the total sales. Firms having a higher cash-flow are considered to be less risky, since they are likely to pay their debts resulting in lower bankruptcy risks (Bliss & Gul, 2012) .

LOSS is a dummy variable. 1, that means firms have a negative net income, or 0, if otherwise. Investors tend to consider firms with losses to involve greater risk (Bliss & Gul, 2012).

INDR is board independence, where independent directors can monitor and assess management performance to mitigate an agency problem and encourage the manager to put in more effort (Lu & Wang, 2018). It is measured as the ratio of independent directors to the board size (Chen et al., 2011).

Table 4-1 Variable descriptions and sources

Variable	Measurement	Source
Dependent variable		
$COE_{EP\,i,t}$	The cost of equity, EP ratio, average realized earning of t+1 scaled by stock price in t	CSMAR
Independent variable		
$CSRDIS_{i,t}$	The quality of CSR disclosure, disclosure score including soft; positive and negative information	2015 CSR reports
$BETA_{i,t}$	The firm beta, the regression of the covariance of the stock return with the market return divided by the variance of the market return over 48 months	CSMAR
$ROA_{i,t}$	Return on assets, the ratio of net income to total assets	CSMAR
$LEV_{i,t}$	Leverage ratio, the ratio of total debt divided to book value of total assets	CSMAR
$LSIZE_{i,t}$	Firm size, the natural log of market value of equity	CSMAR
$IND_{i,t}$	Industry indicator, dummy variable: 1=high profile industry, 0= medium profile industry	CSMAR, CSRC
$STATE_{i,t}$	State ownership, the ratio of state owned shares to the total shares	CSMAR
$AGE_{i,t}$	Firm age, the between the year the firm established between 2015	CSMAR
$GROWTH_{i,t}$	Sales growth, sales revenues in year t minus sales revenues in year t-1 divided by sales revenue in year t-1	CSMAR
$ANAL_{i,t}$	Analyst following, he number group of financial analysts following each firm at the end of year t	CSMAR
$CF_{i,t}$	The ratio of Cash flow from operations to total assets	CSMAR

(Continued on next page)

Table 4-1 (continued)

Variable	Measurement	Source
LOSS $_{i,t}$	Net income loss indicator, dummy variable: 1= net income is negative in year t-1, 0= net income is positive in year t-1	CSMAR
INDR $_{i,t}$	Board independence, the ratio of independent directors to the board	CSMAR

4.3.3 Sample selection

In this study the data used are based on a sample of 300 firms listed on China Securities Index (CSI 300 index) in 2015[17]. 64 financial institutions were excluded from the samples since they had significant differences regarding accounting systems. The data of CSR disclosure was manually collected from the firms' stand-alone CSR reports, if issued. If not, CSR information was gathered from firms' annual reports. If a firm had not issued either a stand-alone CSR report or an annual report, this firm was excluded. Financial data were collected from The China Stock Market and Accounting Research (CSMAR) database, which provides data on Chinese stock markets and financial statements by Chinese listed firms and is widely used in Chinese studies. However, due to a reduction in the negative EP ratio and missing data in CSMAR, 44 firms were deducted from the sample. The final sample size was 192.

4.4 Empirical Results

This section provides detailed description and discussion of descriptive and regression analysis.

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[17] There are several reasons for using firms listed on CSI 300 in 2015 as the research sample. 1. This study had started from 2015. In order to show the latest trend of Chinese CSR disclosure development, it selected 2015 as the year to investigate. Meanwhile, there are no significant events happened in 2015 to strongly influence the stock prices which provides an ideal setting to test the relationship between CSR disclosure and the cost of equity. 2. The content analysis is very time consuming that the author spent 6 months to collect CSR disclosure data by herself. Considering the limited time and research progress arrangement, this study follows Botosan (1997), Bouten et al. (2011) and Cho et al. (2012) to collect data for one year. 3. CSI 300 index is a well know index including firms listed on Shanghai and Shenzhen stock exchanges reflecting the general view of Chinese market.

4.4.1 Descriptive statistics[18]

Table 4-2 reports descriptive statistics of variables and Panel A presents the characteristics of CSR disclosure based on disclosure level, nature and type. The means of positive and negative disclosure (Totalpositive and Totalnegative) were 1.1458 and 3.0938, and, suggesting that negative information is disclosed more frequently among firms. The mean of hard disclosure (Totalhard), 6.6771, was significantly higher than soft disclosure (Totalsoft), 0.1458 and standard deviations were 7.8853 and 0.3823, respectively.

Panel B of Table 4-2 provides descriptive statistics of cost of equity (COEep). The minimum and maximum values were 0.1890 and -0.0484, a huge difference. The mean was 0.0422 and the standard deviation.

Regarding control variables, panel C presents detailed descriptions of control variables including firm risk (BETA), return on asset (ROA), leverage ratio (LEV), firm size (LSIZE), industry indicator (IND), state ownership (STATE), firm age (AGE), sales growth (GROWTH), analysts following (ANAL), cash flow from operation (CF), loss (LOSS), and board independence (INDR). .

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[18] All variables expect 'Positivesoft' are winsorized at level 1% and 99% levels. Since only two firms disclose positive and soft information and each of them has '1' as 'Positivesoft' score, winsorization cannot be applied to the 'Positivesoft' variable for avoiding the omission.

Table 4-2 Descriptive Statistics

Variables	Obs	Mean	Std. Deviation	Minimum	Maximum	Median	Skewness	Kurtosis
Panel A: Descriptive statistics of CSR disclosure								
Totalscore	192	6.8281	7.9716	0	34	4	1.4960	4.7758
Totalpositive	192	1.1458	1.6530	0	7	0	1.5794	5.2290
Totalnegative	192	3.0938	4.0793	0	17	2	1.6073	4.9342
Totalhard	192	6.6771	7.8853	0	34	4	1.5078	4.7997
Totalsoft	192	0.1458	0.3823	0	2	0	2.5543	8.9896
Positivehard	192	1.1354	1.6508	0	7	0	1.5965	5.2913
Positivesoft	192	0.0104	0.1018	0	1	0	9.6442	94.0105
Negativehard	192	2.9583	3.9775	0	17	2	1.6426	5.1040
Negativesoft	192	0.1302	0.3374	0	1	0	2.1977	5.8297
Panel B: Descriptive statistics of the cost of equity								
COEep	192	0.0421	0.0397	-0.0484	0.1890	0.0329	1.5986	6.5120
Panel C: Descriptive statistics of control variables								
BETA	192	1.0898	0.1869	0.50928	1.4200	1.1072	-0.6465	3.0939
ROA	192	0.0624	0.0524	-0.0260	0.2708	0.4817	1.2699	5.0778
LEV	192	0.2871	0.2475	0.0082	1.7413	0.2499	3.1558	17.4798
LSIZE	192	7.7023	0.2614	7.3654	8.6757	7.6247	1.3473	4.6456
STATE	192	0.0542	0.1404	0	0.7601	0	3.1549	12.9766
AGE	192	16.8021	5.1808	6	27	17	-0.2534	2.3908
GROWTH	192	0.2915	1.5058	-0.4129	13.9583	0.0557	8.1011	72.2014
ANAL	192	12.9167	8.9784	0	41	11	0.8180	3.3148
CF	192	0.0762	0.0630	-0.0554	0.2520	0.0695	0.6418	3.4772

Table 4-2 (continued)

Variables	Obs	Mean	Std. Deviation	Minimum	Maximum	Median	Skewness	Kurtosis
Panel C: Descriptive statistics of control variables								
INDR	192	0.3847	0.0624	0.3	0.6667	0.3636	1.9094	8.2121
Panel D: Frequency of control variables								

Variables		Frequency		Percentage				
		0	1	0	1			
IND	192	133	59	69.2708%	30.7292%			
LOSS	192	188	4	97.9167%	2.0833%			

Panel A presents the descriptive statics of the CSR disclosure variables classified by disclosure level, nature, and type. I manually collected from firms' CSR, sustainability and annual reports. Panel B presents the descriptive statistics of the cost of equity. The cost of equity, COEep, was calculated by EP ratio. Panel C represents the descriptive statistics of control variables, including Beta, ROA, LEV, LSIZE, STATE, AGE, GROWTH, ANAL, CF, LOSS and INDR.

Panel D presents the frequencies of dummy variables that industry variable that around one third were sensitive to CSR issues (IND), while only about 2% of firms had loss in 2014.

The Pearson correlations between the variables are presented in Table 4-3. The results show some significant relationships. For instance, COE_{ep} and Totalsoft (r= 0.2115, p= 0.0032/2), COE_{ep} and Negativesoft (r= 0.2452, p= 0.0006/2), COE_{ep} and Negativesoft (r= 0.2452, p= 0.0006/2), Totalpositive and Totalnegative (r= 0.5197, p= 0.0000/2), BETA and ROA (r= 0.5060, p= 0.0000/2). When correlations exceed 0.7, multicollinearity is considered problematic in regression analysis (Tabachnick & Fidell 2007). Therefore, in the regression analysis section, the variance inflation factors (VIFs) are computed to reexamine the existence of multicollinearity and the results were all less than 3, suggesting no serious problems. caused by multicollinearity in the regression models.

Table 4-3 Pearson Correlations between variables

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	COE$_{EP}$							.								
2	Totalscore	0.10														
		(0.18)														
3	Totalpositive	-0.02	0.72***													
		(0.78)	(0.00)													
4	Totalnegative	0.13*	0.92***	0.52***												
		(0.08)	(0.00)	(0.00)												
5	Totalhard	0.09	0.01***	0.72***	0.91***										.	
		(0.22)	(0.00)	(0.00)	(0.00)											
6	Totalsoft	0.21***	0.31***	0.18**	0.35***	0.26***										
		(0.00)	(0.00)	(0.01)	(0.00)	(0.00)										
7	Positivehard	-0.02	0.72***	0.99***	0.52***	0.72***	0.15									
		(0.79)	(0.00)	(0.00)	(0.00)	(0.00)	(0.03)									
8	Positivesoftl	-0.02	-0.00	0.05	-0.04	-0.06	0.36***	-0.01		.			.			
		(0.74)	(0.55)	(0.46)	(0.58)	(0.40)	(0.00)	(0.91)								
9	Negativehard	0.11	0.92***	0.52***	0.99***	0.92***	0.27***	.52***	-0.05							
		(0.13)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.49)							
10	Negativesoft	0.25***	0.37***	0.187**	0.41***	0.32***	0.95***	0.18**	0.11	0.33***						
		(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.02)	(0.12)	(0.00)						
11	Beta	-0.31***	0.05	-0.02	0.07	0.05	-0.02	-0.02	-0.07	0.07	-0.02					
		(0.00)	(0.50)	(0.78)	(0.36)	(0.50)	(0.74)	(0.82)	(0.34)	(0.35)	(0.79)					

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Table 4-3 (continued)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
12	ROA	0.28***	-0.28***	-0.15**	-0.28***	-0.28***	-0.15**	-0.15**	0.07	0.07***	-0.18**	-0.51***				
		(0.00)	(0.00)	(0.04)	(.000)	(0.00)	(0.04)	(0.04)	(0.33)	(0.00)	(0.01)	(0.00)				
13	LEV	0.04	0.07	0.09	0.13*	0.07	0.03	-0.08	-0.10	-0.13*	0.07	0.08	-0.23***			
		(0.57)	(0.32)	(0.21)	(0.06)	(0.33)	(0.67)	(0.25)	(0.17)	(0.07)	(0.35)	(0.28)	(0.00)			
14	LSIZE	0.33***	0.23***	0.11	0.22***	0.22***	0.15**	0.11	-0.04	0.22***	0.19	-0.39***	0.12*	-0.11		
		(0.00)	(0.00)	(0.12)	(0.00)	(0.00)	(0.03)	(0.11)	(0.58)	(0.01)	(0.02)	(0.09)	(0.10)	(0.13)		
15	STATE	-0.07	0.01	-0.04	0.02	0.01	-0.07	-0.04	0.11	0.03	-0.11	0.15**	-0.17**	0.05	0.05	
		(0.32)	(0.93)	(0.61)	(0.78)	(0.89)	(0.34)	(0.55)	(0.12)	(0.68)	(0.14)	(0.04)	(0.02)	(0.45)	(0.47)	
16	AGE	0.10	0.00	0.09	-0.05	0.01	-0.11	0.09	0.05	-0.03	-0.14**	-0.08	0.01	0.02	-0.19***	0.01
		(0.16)	(0.95)	(0.22)	(0.53)	(0.89)	(0.11)	(0.24)	(0.46)	(0.65)	(0.05)	(0.25)	(0.87)	(0.82)	(0.01)	(0.91)
17	GROWTH	0.13*	-0.11	-0.07	-0.11	-0.11	-0.07	-0.07	-0.02	-0.10	-0.07	-0.14*	0.41***	0.01	0.09	0.03
		(0.08)	(0.13)	(0.34)	(0.14)	(0.14)	(0.35)	(0.35)	(0.83)	(0.15)	(0.37)	(0.05)	(0.00)	(0.84)	(0.20)	(0.66)
18	ANAL	0.17***	-0.02	0.00	-0.03	-0.02-	0.01	0.01	-0.07	-0.03	0.04	-0.43***	0.41***	-0.17**	0.29***	-0.19***
		(0.00)	(0.74)	(0.98)	(0.66)	(0.74)	(0.91)	(0.94)	(0.35)	(0.64)	(0.57)	(0.00)	(0.00)	(0.02)	(0.00)	(0.01)
19	CF	0.28***	-0.08	-0.05	-0.11	-0.08	0.01	-0.06	0.08	-0.11	-0.00	-0.33***	0.47***	-0.13*	0.24***	-0.03
		(0.00)	(0.27)	(0.49)	(0.13)	(0.26)	(0.87)	(0.45)	(0.25)	(0.12)	(0.96)	(0.00)	(0.00)	(0.08)	(0.00)	(0.64)
20	INDR	0.15	0.00	-0.02	0.03	-0.00	0.07	-0.02	-0.04	0.02	0.10	-0.01	-0.05	-0.01	-0.20***	-0.09
		(0.03)	(0.99)	(0.73)	(0.72)	(0.96)	(0.31)	(0.76)	(0.56)	(0.80)	(0.18)	(0.94)	(0.50)	(0.87)	(0.01)	(0.22)
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

	16	17	18	19
17	0.01			
	(0.90)			

(Continued on next page)

Table 4-3 (Continued)

	16	17	18	19
18	-0.06	0.00		
	(0.38)	(0.96)		
19	0.06	0.17**	0.36***	
	(0.43)	(0.02)	(0.00)	
20	-0.20***	0.10	0.00	-0.09
	(0.00)	(0.15)	(0.99)	(0.23)
	16	17	18	19

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed)

4.4.2 Results of regression analysis

Table 4-4 presents the results of regression analysis, including Totalscore as an independent variable to test the relationship of the level of CSR disclosure, cost of equity and other control variables. They show a positive relationship between the level of CSR disclosure and cost of equity (β= 0.0006, p= 0. 029/2), indicating that a higher level of overall CSR disclosure is positively associated with a higher cost of equity, which contradicts my hypothesis.

Table 4-4 Regression model with impact of CSR information level on cost of equity

Variables	Information level
(Intercept)	-0.2461***
	(0.007)
Totalscore	0.0006**
	(0.029)
BETA	-0.0255
	(0.138)
ROA	0.1319*
	(0.077)
LEV	0.0061
	(0.560)
LSIZE	0.0316***
	(0.005)
IND	-0.0041
	(0.468)
STATE	-0.0036
	(0.802)
AGE	0.0010**
	(0.032)
GROWTH	-0.0007
	(0.843)
ANAL	-0.0003
	(0.434)
CF	0.0736
	(0.126)
LOSS	-0.0523***
	(0.000)
INDR	0.1089
	(0.055)

Table 4-4 (Continued)

Adj.R^2	22.54%
F-statistic	527
N	192

The dependent variable is cost of equity, calculated based on the EP ratio. All variables are defined in Chapter 5.3.2. COE_{ep} is measured by EP ratio. Totalscore is the total score obtained from the CSR disclosure index presented in Appendix A. BETA is the firm beta. ROA is the ratio of net income to total assets in 2015. LEV is the ratio of total debt divided to book value of total assets in 2015. LSIZE is the log of firm's market value of equity. IND is the industry indicator, 0= Medium profile and 1= High profile. STATE is the ratio of state-owned shares to total shares. AGE is the number of years from the firm is established till 2015. GROWTH is sales revenues in year t minus sales revenues in year t-1 scaled by sales revenue in year t-1. ANAL is the number group of financial analysts following each firm at the end of 2015. CF is the ratio of cash flow from operation to total assets. LOSS is a dummy variable, 0= net income is positive in 2014 and 1= net income is negative in 2014. INDR is the ratio of independent directors to the board.

Numbers in parentheses are t-statistics and significance levels are denoted based on two-tailed tests.

* Significant at the 0.10 level

** Significant at the 0.05 level

*** Significant at the 0.01 level

Table 4-5 builds on the specifications in Table 4-4 and the partitions of Totalscore are based on information nature, namely Totalpositive and Totalnegative, and information type, namely Totalhard and Totalsoft. This substitution in model 1 allows me to test Hypothesis 2, which predicts whether CSR disclosures have different impacts on the cost of equity across different information nature. Consistent with prior literature investigating the content of disclosure (Hutton et al., 2003; Corama et al., 2011), this study finds the nature of CSR disclosure items is significantly associated with cost of equity that Totalpositive has negative impact on cost of equity and Totalnegative have positive significant impact on cost of equity. These findings provide evidences regarding the relationships between positive CSR disclosure and cost of equity; and negative CSR disclosure and cost of equity. The results suggest that a firm providing

higher quality disclosure classified as positive is likely to have a lower cost of equity, while negative is likely to have a higher cost of equity, implying that the nature of CSR disclosure is associated with firm riskiness and the CSR disclosure affect the cost of equity differently, by disclosure nature. These findings support my second hypothesis.

Similar to model 1, the results of model 2 builds on the specification of Table 4-4 by substituting Totalhard and Totalsoft for Totalscore to test Hypothesis 3, which predicts that soft CSR disclosure are negatively associated with the cost of equity. However, the results document a positive relationship between soft disclosure and cost of equity (β= 0.0196, p= 0. 023/2) and no significant impact of hard disclosure in the model. These results suggest firms disclosing more CSR soft information tend to have the higher cost of equity, which shows the incremental informativeness of soft information and reflects the content of information. It implies that the association between CSR disclosures and the cost of equity differs by disclosure type.

Table 4-5 Regression model with the impact of CSR information nature and information type on cost of equity

Variables	Information nature	Information type
	Model 1	Model 2
(Intercept)	-0.2067**	-0.2443***
	(0.018)	(0.006)
Totalpositive	-0.0045**	
	(0.022)	
Totalnegative	0.0027***	
	(0.001)	
Totalhard		0.0003
		(0.243)
Totalsoft		0.0196**
		(0.023)
BETA	-0.0320*	-0.0225
	(0.078)	(0.184)

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Table 4-5 (Continued)

Variables	Information nature	Information type
	Model 1	Model 2
ROA	0.1166	0.1571**
	(0.102)	(0.024)
LEV	-0.0018	0.0061
	(0.858)	(0.564)
LSIZE	0.0279***	0.0305***
	(0.009)	(0.005)
IND	-0.0056	-0.0047
	(0.309)	(0.390)
STATE	-0.0055	-0.0002
	(0.707)	(0.989)
AGE	0.0012**	0.0012**
	(0.016)	(0.011)
GROWTH	-0.0005	-0.0007
	(0.889)	(0.838)
ANAL	-0.0003	-0.0003
	(0.409)	(0.445)
CF	0.0746	0.0644
	(0.116)	(0.160)
LOSS	-0.0605***	-0.0479***
	(0.000)	(0.000)
INDR	0.1073**	0.1053*
	(0.035)	(0.055)
Adj.R^2	26.03%	25.27%
F-statistic	5.80	5.61
N	192	192

Dependent and control variables are defined in section 5.3.2.1 and 5.3.2.3. Independent variables are defined in section 7.3.2.2. COE_{ep} is measured by realised earnings in 2016, scaled by the stock prices in 2015. Positive (negative, hard, soft) is the total score of positive (negative, hard, soft) items disclosed in the CSR and the annual report, obtained from the CSR disclosure index in Appendix A. Beta is the firm's Beta. ROA is the ratio of net income to the total assets in 2015. LEV is the total debt scaled by the book value of the total assets in 2015. The total debt is the sum of long-term debt and debt in current liabilities. LSIZE is calculated as the natural log of the firm's market value of equity at the end of 2015. IND is industry indicator, 0 = lower profile and 1 = higher profile. STATE is the ratio of state-owned shares to total shares. AGE is the number of years from the firm is established till 2015. GROWTH is sales revenues in year t minus sales revenues in year t-1 scaled by sales revenue in year t-1. ANAL is the number group of financial analysts following each firm at the

end of 2015. CF is the ratio of cash flow from operation to total assets. LOSS is a dummy variable, 0= net income is positive in 2014 and 1= net income is negative in 2014. INDR is the ratio of independent directors to the board.

Numbers in parentheses are t-statistics and significance levels are denoted based on two-tailed tests.

* Significant at the 0.10 level.

** Significant at the 0.05 level.

*** Significant at the 0.01 level.

Table 4-6 shows the combined effects of the CSR disclosure nature and type on the cost of equity. In this model, most of combinations are significantly associated with the cost of equity. Among them, both Positivehard and Positivesoft are negatively related to the cost of equity. The coefficients on Positivehard and Positivesoft are -0.0040, (p=0.026/2) and -0.0357 (p=0.001/2). Meanwhile, both Negativehard and Negativesoft information are positively associated with the cost of equity (β=0.0018, p=0.019/2, β=0.0285, p=0.003/2). To summarise, these findings support Hypothesis 4A, 4C and 4D, that Positivehard CSR disclosure has a negative impact on the cost of equity and Negative CSR disclosure has a positive impact on the cost of equity regardless information type.

Table 4-6 Regression model with the combined impact of CSR information nature and type on cost of equity

Variables	Information combinations
(Intercept)	-0.1948**
	(0.020)
Positivehard	-0.0040**
	(0.026)
Positivesoft	-0.0357***
	(0.001)

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Table 4-6 (Continued)

Variables	Information combinations
Negativehard	0.0018**
	(0.019)
Negativesoft	0.0285***
	(0.003)
BETA	-0.0303*
	(0.088)
ROA	0.1608**
	(0.014)
LEV	-0.0029
	(0.777)
LSIZE	0.0256**
	(0.017)
IND	-0.0065
	(0.216)
STATE	0.0048
	(0.699)
AGE	0.0014***
	(0.004)
GROWTH	-0.0009
	(0.799)
ANAL	-0.0004
	(0.270)
CF	0.0685
	(0.135)
LOSS	-0.0531***
	(0.000)

Table 4-6 (Continued)

Variables	Information combinations
INDR	0.1028**
	(0.043)
Adj.R^2	29.43%
F-statistic	5.98
N	192

Dependent and control variables are defined in section 4.3.2.1 and 4.3.2.3. Independent variables are defined in section 5.3.2.2. COE_{ep} is measured by realised earnings in 2016, scaled by the stock prices in 2015. Totalscore (positive, negative, hard, soft, positivehard, positivesoft, negativehard, negativesoft) is the total score of Positive/hard (positive/soft, negative/hard, negative/soft) items disclosed in the CSR and the annual report, obtained from the CSR disclosure index in Appendix A. Beta is the firm's Beta. ROA is the ratio of net income to the total assets at the beginning of 2015. LEV is the total debt scaled by the book value of the total assets in 2015. The total debt is the sum of long-term debt and debt in current liabilities. LSIZE is calculated as the natural log of the firm's market value of equity at the end of 2015. IND is industry indicator, 0 = lower profile and 1 = higher profile. STATE is the ratio of state-owned shares to total shares. AGE is the number of years from the firm is established till 2015. GROWTH is sales revenues in year t minus sales revenues in year t-1 scaled by sales revenue in year t-1. ANAL is the number group of financial analysts following each firm at the end of 2015. CF is the ratio of cash flow from operation to total assets. LOSS is a dummy variable, 0= net income is positive in 2014 and 1= net income is negative in 2014. INDR is the ratio of independent directors to the board.

Numbers in parentheses are t-statistics and significance levels are denoted based on two-tailed tests.

* Significant at the 0.10 level.

** Significant at the 0.05 level.

*** Significant at the 0.01 level.

It is noticeable that, across all regression models, some control variables has significant influences constantly, including ROA, LSIZE (firm size), AGE (firm age), LOSS and INDR (board independence). ROA has a positive relationship with cost of equity which is contrary to theories and prior literature. The possible cause may be adopting the EP ratio to measure the cost of equity, since both use the same variable, earnings, to calculate the results. Meanwhile, a higher LSIZE leads to a higher cost of equity, consistent with the findings of Garcia-Sanchez and Noguera-Gamez (2017) that a bigger firm is more likely to have financial constraints resulting in high external finance costs. Their argument is supported by the results of Botosan et al. (2004), Plumlee et al. (2010), and Dhaliwal et al. (2011). Moreover, AGE is positively associated with the cost of equity, which suggests that firms with a longer history tend to have higher risks which is contrary to the predictions. Loderer and Waelchli (2010) explain that older firms tend to have difficulties of changing and discarding structural and process-related rigidities and are also likely to experience rent-seeking factions resulting in lower profitability and a higher cost of equity. LOSS has a negative relationship with the cost of equity, which contradicts expectations but is consistent with the findings of Ng and Rezaee (2015). In addition, the coefficient of INDR is positive and significant. A possible explanation is that independent boards encourage manager to participate in risky projects leading to an increase in perceived risks (Lu & Wang, 2018). Finally, in Table 4-5 model1 and Table 4-6, Beta is negatively associated with the cost of equity, which is different from the prediction of theories and empirical findings. However, this finding is consistent with Ng and Rezaee (2015) and Hou et al. (2012).

4.4.3 Additional analyses

In order to test the robustness of the main results above, a series of analyses have been designed and performed. First, the EP ratio is replaced by the modified economy-wide growth model as the proxy for the cost of equity in regressions. Second, two alternative measurements of CSR disclosure are employed to examine whether the results are consistent. Third, considering the sensitivity towards environmental issues,

energy and utility firms have been reclassified as high profile, in order to test whether the main results are consistent. Finally, the Two Stage Least Square (2SLS) approach is adopted to address endogeneity.

4.4.3.1 Cost of equity proxy

Following Eliwa et al. (2016), the modified economy-wide growth model (Gode and Mohanram, 2003), COE_{GM}, is employed to calculate the cost of equity, which is based on the model suggested by Ohlson and Juettner-Nauroth (2005)[19]. The formula is shown as follows.

$COE_{GM}= A+ \{A^2+(EPS_{t+1}/P_t)*[(EPS_{t+2}-EPS_{t+1})/EPS_{t+1}–(r-1)]\}^{1/2}$

$A=(r-1+DPS_{t+1}/P_0)/2$

DPS_t: dividends per share at the period t

r: the growth rate in abnormal earnings. It equals to the risk-free rate minus 3%, where the 3% refers to economy-wide growth.

In brief, the results based on COE_{GM} are mainly consistent with those reported for the primary analysis measured by COE_{EP}. The coefficients on Totalnegative and Totalsoft are positive and significant ($\beta= 0.0027$, p= 0. 001/2; $\beta= 0.0175$, p= 0. 025/2). More importantly, Positivesoft, Negativehard and Negativesoft are positively associated with COE_{GM} ($\beta= -0.0249$, p= 0. 002/2; $\beta= 0.0020$, p= 0.013/2; $\beta= 0.0231$, p= 0. 018/2). It is noticeable that the impact of Totalpositive and Positivehard on COE_{GM} is not significant but the coefficient on Totalhard is marginally significant (($\beta= 0.0005$, p= 0. 076/2). These finding are different from the main results and these inconsistencies may be caused by the difference between COE_{EP} and COE_{GM} models, in that COE_{EP} focuses on the current market value, while COE_{GM} additionally considers the growth of a firm's earnings as well as the world-wide economy. To sum up, these findings are mainly consistent across both COE_{EP} and COE_{GM} models

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[19] The economy-wide growth model (Ohlson and Juettner-Nauroth, 2005) is widely used,. However due to the lack of EPS_{t+5} it cannot be applied. Instead, this thesis adopts the modified model proposed by Gode & Mohanram (2003).

suggesting shareholders respond to CSR disclosure differently by nature, type and variance in their combinations, which supports the argument of Plumlee et al. (2015).

Table 4-7 Regression models with the impact of CSR information on COE$_{GM}$

Variables	Information level	Information nature	Information type	Information combination
	Model 1	Model2	Model3	Model 4
(Intercept)	-0.2349**	-0.1998**	-0.2337***	-0.1925**
	(0.012)	(0.027)	(0.009)	(0.028)
Totalscore	0.0008***			
	(0.006)			
Totalpositive		-0.0029		
		(0.139)		
Totalnegative		0.0027***		
		(0.001)		
Totalhard			0.0005**	
			(0.076)	
Totalsoft			0.0175**	
			(0.025)	
Positivehard				-0.0025
				(0.182)
Positivesoft				-0.0249***
				(0.002)
Negativehard				0.0020**
				(0.013)

Table 4-7 (Continued)

Variables	Information level	Information nature	Information type	Information combination
	Model 1	Model 2	Model 3	Model 4
Negativesoft				0.0231**
				(0.018)
BETA	-0.0231	-0.0285	-0.0205	-0.0268
	(0.179)	(0.116)	(0.220)	(0.132)
ROA	0.0743	0.0644	0.0962	0.0987
	(0.298)	(0.351)	(0.143)	(0.114)
LEV	0.0053	-0.0011	0.0053	-0.0018
	(0.548)	(0.898)	(0.545)	(0.838)
LSIZE	0.0310***	0.0275**	0.0301***	0.0259***
	(0.006)	(0.012)	(0.007)	(0.019)
IND	0.0045	0.0029	0.0040	0.0023
	(0.427)	(0.597)	(0.463)	(0.673)
STATE	0.0177	0.0163	0.0211	0.0242*
	(0.214)	(0.255)	(0.138)	(0.070)
AGE	0.0007*	0.0008*	0.0009**	0.0010**
	(0.086)	(0.052)	(0.034)	(0.017)
GROWTH	0.0006	0.0007	0.0006	0.0004
	(0.877)	(0.852)	(0.884)	(0.913)
ANAL	0.0001	0.0001	0.0001	-1.65e-06
	(0.765)	(0.824)	(0.764)	(0.996)

Table 4-7 (Continued)

Variables	Information level	Information nature	Information type	Information combination
	Model 1	Model 2	Model 3	Model 4
CF	0.0560	0.0585	0.0479	0.0532
	(0.193)	(0.163)	(0.240)	(0.187)
LOSS	0.0006	-0.0053	0.0044	0.0006
	(0.973)	(0.746)	(0.792)	(0.972)
INDR	0.0782	0.0775*	0.0750	0.0737
	(0.137)	(0.092)	(0.137)	(0.106)
Adj.R^2	17.22%	20.30%	19.71%	22.45%
F-statistic	4.06	4.47	4.35	4.45
N	192	192	192	192

Dependent and control variables are defined in section 4.3.2.1 and 4.3.2.3. Independent variables are defined in section 4.5.1. COE_{GM} is measured by the modified economy-wide growth model (Gode and Mohanram, 2003). Totalscore (positive, negative, hard, soft, positivehard, positivesoft, negativehard, negativesoft) is the total score (of positive, negative, hard, soft positive/hard, positive/soft, negative/hard, negative/soft) items disclosed in the CSR and the annual report, obtained from the CSR disclosure index in Appendix A. Beta is the firm's Beta. ROA is the ratio of net income to the total assets at the beginning of 2015. LEV is the total debt scaled by the book value of the total assets in 2015. The total debt is the sum of long-term debt and debt in current liabilities. LSIZE is calculated as the natural log of the firm's market value of equity at the end of 2015. IND is industry indicator, 0 = lower profile and 1 = higher profile. STATE is the ratio of state-owned shares to total shares. AGE is the number of years from the firm is established till 2015. GROWTH is sales revenues in year t minus sales revenues in year t-1 scaled by sales revenue in year t-1. ANAL is the number group of financial analysts following each firm at the end of 2015. CF is the ratio of cash flow from operation to total assets. LOSS is a dummy variable, 0= net income is positive in 2014 and 1= net income is negative in 2014. INDR is the ratio of independent directors to the board.

Numbers in parentheses are t-statistics and significance levels are denoted based on two-tailed tests.

* Significant at the 0.10 level.

** Significant at the 0.05 level.

*** Significant at the 0.01 level.

4.4.3.2 Two alternative CSR disclosure proxies

Two alternative measurements of CSR disclosure are adopted, including CSR disclosure ratio and CSR disclosure rank. The CSR disclosure ratio is measured as the ratio of disclosed CSR items to the maximum number of applicable disclosed CSR items, while the CSR disclosure rank refers to the rank order of the disclosed CSR items: for instance, rank 1 refers to the report disclosing most information (Botosan, 1997; Tsalavoutas, 2009). The relationships between CSR disclosure proxies and COE_{EP} are the same as reported in the main tests which confirm the robustness of my findings.

Table 4-8 Regression models with two alternative measures for CSR disclosure

Variables	CSR disclosure ratio				CSR disclosure rank			
	Information level	Information nature	Information type	Information combinations	Information level	Information nature	Information type	Information combinations
	Model 1	Model2	Model3	Model 4	Model 1	Model2	Model3	Model 4
(Intercept)	-0.2461***	-0.2067**	-0.2443***	-0.1948**	-0.2232**	-0.1960**	-0.1712*	-0.2108**
	(0.007)	(0.018)	(0.006)	(0.020)	(0.015)	(0.027)	(0.058)	(0.014)
Totalscore	0.1340**				-0.0007**			
	(0.029)				(0.024)			
Totalpositive		-1.0312**				0.0044**		
		(0.022)				(0.022)		
Totalnegative		0.6131***				-0.0027***		
		(0.001)				(0.001)		
Totalhard			0.0660				-0.0004	
			(0.243)				(0.205)	
Totalsoft			0.7444**				-0.0195**	
			(0.023)				(0.023)	
Positivehard				-0.7693**				0.0040**
				(0.026)				(0.026)
Positivesoft				-1.3575***				0.0357***
				(0.001)				(0.001)

Table 4-8 (Continued)

Variables	CSR disclosure ratio				CSR disclosure rank			
	Information level	Information nature	Information type	Information combinations	Information level	Information nature	Information type	Information combinations
	Model 1	Model2	Model3	Model 4	Model 1	Model2	Model3	Model 4
Negativehard				0.3444**				-0.0019**
				(0.019)				(0.018)
Negativesoft				1.0821***				-0.0285***
				(0.003)				(0.003)
BETA	-0.0255	-0.0320*	-0.0225	-0.0303*	-0.0252	-0.0320*	-0.0225	-0.0298*
	(0.138)	(0.078)	(0.184)	(0.088)	(0.144)	(0.079)	(0.187)	(0.093)
ROA	0.1319*	0.1166	0.1571**	0.1608**	0.1366*	0.1178*	0.1599**	0.1644**
	(0.077)	(0.102)	(0.024)	(0.014)	(0.069)	(0.098)	(0.022)	(0.012)
LEV	0.0061	-0.0018	0.0061	-0.0029	0.0060	-0.0018	0.0060	-0.0029
	(0.560)	(0.858)	(0.564)	(0.777)	(0.567)	(0.860)	(0.568)	(0.777)
LSIZE	0.0316***	0.0279***	0.0305***	0.0256**	0.0311***	0.0278***	0.0302***	0.0253**
	(0.005)	(0.009)	(0.005)	(0.017)	(0.005)	(0.010)	(0.006)	(0.018)
IND	-0.0041	-0.0056	-0.0047	-0.0065	-0.0041	-0.0056	-0.0047	-0.0066
	(0.468)	(0.309)	(0.390)	(0.216)	(0.468)	(0.308)	(0.387)	(0.212)
STATE	-0.0036	-0.0055	-0.0002	-0.0048	-0.0034	-0.0055	-0.0003	-0.0048
	(0.802)	(0.707)	(0.989)	(0.699)	(0.814)	(0.704)	(0.984)	(0.700)
AGE	0.0010**	0.0012**	0.0012**	0.0014***	0.0010**	0.0011**	0.0012**	0.0014***
	(0.032)	(0.016)	(0.011)	(0.004)	(0.033)	(0.016)	(0.012)	(0.004)

Table 4-8 (Continued)

Variables	CSR disclosure ratio				CSR disclosure rank			
	Information level	Information nature	Information type	Information combinations	Information level	Information nature	Information type	Information combinations
	Model 1	Model2	Model3	Model 4	Model 1	Model2	Model3	Model 4
GROWTH	-0.0007	-0.0005	-0.0007	-0.0009	-0.0007	-0.0005	-0.0007	-0.0009
	(0.843)	(0.889)	(0.838)	(0.799)	(0.842)	(0.887)	(0.837)	(0.796)
ANAL	-0.0003	-0.0003	-0.0003	-0.0004	-0.0003	-0.0003	-0.0003	-0.0004
	(0.434)	(0.409)	(0.445)	(0.270)	(0.426)	(0.403)	(0.439)	(0.263)
CF	0.0736	0.0746	0.0644	0.0685	0.0735	0.0743	0.0644	0.0681
	(0.126)	(0.116)	(0.160)	(0.135)	(0.125)	(0.117)	(0.159)	(0.137)
LOSS	-0.0523***	-0.0605***	-0.0479***	-0.0531***	-0.0524***	-0.0604***	-0.0479***	-0.0528***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
INDR	0.1089*	0.1073**	0.1053*	0.1028**	0.1089*	0.1070**	0.1055*	0.1031**
	(0.055)	(0.035)	(0.055)	(0.043)	(0.054)	(0.036)	(0.053)	(0.042)
Adj.R^2	22.54%	26.03%	25.27%	29.43%	22.74%	26.02%	25.36%	29.45%
F-statistic	5.27	5.80	5.61	5.98	5.32	5..80	5.64	5.98
N	192	192	192	192	192	192	192	192

Dependent and control variables are defined in section 4.3.2.1 and 4.3.2.3. Independent variables are defined in section 4.5.1. COE_{EP} is measured realised earnings in 2016, scaled by the stock prices in 2015. In the CSR disclosure ratio model, Totalscore (positive, negative, hard, soft, positivehard, positivesoft, negativehard, negativesoft) is the total score (of positive, negative, hard, soft positive/hard, positive/soft, negative/hard, negative/soft) of items disclosed in the CSR and the annual report, scaled by the maximum number of applicable disclosure items for firm that could have been disclosed. In the CSR disclosure rank model, Totalscore (positive, negative, hard, soft, positivehard, positivesoft, negativehard, negativesoft) is the rank of items disclosed (the total score, positive, negative, hard, soft positive/hard, positive/soft, negative/hard,

negative/soft) in the CSR and the annual report The more CSR information disclosed means the higher rank, for instance, rank 1 refers to the report which provides the most information. These data is obtained from the CSR disclosure index in Appendix A. Beta is the firm's Beta. ROA is the ratio of net income to the total assets at the beginning of 2015. LEV is the total debt scaled by the book value of the total assets in 2015. The total debt is the sum of long-term debt and debt in current liabilities. LSIZE is calculated as the natural log of the firm's market value of equity at the end of 2015. IND is industry indicator, 0 = lower profile and 1 = higher profile. STATE is the ratio of state-owned shares to total shares. AGE is the number of years from the firm is established till 2015. GROWTH is sales revenues in year t minus sales revenues in year t-1 scaled by sales revenue in year t-1. ANAL is the number group of financial analysts following each firm at the end of 2015. CF is the ratio of cash flow from operation to total assets. LOSS is a dummy variable, 0= net income is positive in 2014 and 1= net income is negative in2014. INDR is the ratio of independent directors to the board.

Numbers in parentheses are t-statistics and significance levels are denoted based on two-tailed tests.

* Significant at the 0.10 level.

** Significant at the 0.05 level.

*** Significant at the 0.01 level

4.4.3.3 Reclassification of energy and utility firms

In the main tests, energy and utility firms are classified as medium-profile industries (Chan et al., 2014). However, some energy and utility firms still use un-renewable energy resources (such as fossil fuels) to generate electricity, which leads to heavy pollution, bringing severe public pressure on firms in this sector. Thus, energy and utility firms are re-categorized in this thesis as having a heavy profile. After performing the regressions, the untabulated results show that all tests and findings confirm the key findings in the main analysis.

4.4.3.4 Endogeneity

Potential endogeneity problems exist between CSR disclosure (Totalsocre, Totalpositive, Totalnegative, Totalhard, Totalsoft) and cost of equity (Clarkson et al. 2013). This issue is addressed by adopting a Two Stage Least Squares (2SLS) model. In the first stage, instrumental variables include the industry average of CSR disclosure, which in turn includes CSR total score/ positive/ negative/ hard/ soft (TotalscoreIA/ TotalpositiveIA/ TotalnegativeIA/ TotalhardIA/ TotalsoftIA) and government subsidies (Subsidies). Similarly to Benlemlih (2015) and Huang et al. (2017), the industry average of CSR disclosure tends to influences a firm's CSR disclosure quality but is less likely to affect its ability to access financing. Meanwhile, Lee et al. (2017) suggest government subsidies have a significant impact on a firm's CSR disclosure.

Table 4-9, an information level model reports that, in the first stage, Subsidies and TotalscoreIA have a significant relationship with Totalscore, while the second stage shows that Totalscore is positively associated with $COE_{ep.}$ Meanwhile, an information nature and information type model shows that, in the first stage instrumental variables are essentially significantly associated with endogenous variables. In the second stage, Totalpositive is negatively related to COE_{ep} (β= -0.0293, p= 0. 017/2); however, both Totalnegative and Totalsoft are positively associated with CEO_{ep} (β= 0.0202, p= 0.

003/2; β= 0.1023, p= 0.029/2). These findings are consistent with the main test results.

Meanwhile, this table also presents the results of the Hansen's J statistic, the Anderson-Rubin F statistic and Hausman test. Hansen's J statistic tests whether instrumental variables are over-indentified. The results, which are insignificant, cannot reject the null hypothesis that the instrumental variables are not correlated with structural errors in the second stage regressions. Meanwhile, the Anderson-Rubin F statistic tests the weak-instrument robust inference. The results reject the null hypothesis that endogenous repressors are irrelevant at the 1% significant level, which means instrumental variables are not weak. In addition, the Hausman test examines the potential existence of endogeneity problems. The results cannot reject the null hypothesis that all explanatory variables are exogenous. To sum up, the results of these three tests show the adopted instrumental variables and the key findings are valid and relevant.

Table 4-9 Regression models controlling for Endogeneity

Variables	Information level		Information nature			Information type		
	2nd stage	1st stage	2nd stage	1st stage		2nd stage	1st stage	
	COE	Totalscore	COE	Totalpositive	Totalnegative	COE	Totalhard	Totalsoft
(Intercept)	-0.0499	-32.2670	0.3183	-0.5026	-21.0958*	-0.2173	-36.3826	0.8854
	(0.726)	(0.166)	(0.253)	(0.922)	(0.087)	(0.193)	(0.127)	(0.462)
Totalscore	0.0036***							
	(0.004)							
Totalpositive			-0.0293**					
			(0.017)					
Totalnegative			0.0202***					
			(0.003)					
Totalhard						-0.0004		
						(0.844)		
Totalsoft						0.1023**		
						(0.029)		
BETA	-0.0325	4.0132	-0.0807**	0.1525	2.8173	-0.0069	4.2683	-0.1243
	(0.139)	(0.299)	(0.041)	(0.857)	(0.166)	(0.795)	(0.271)	(0.527)
ROA	0.2794***	-31.9475**	0.2372	-3.8822	-11.6152	0.2627**	-32.4586**	-0.0917
	(0.008)	(0.041)	(0.154)	(0.258)	(0.160)	(0.022)	(0.039)	(0.249)
LEV	0.0030	-0.1053	-0.0533*	-0.8369*	1.4055	0.0069	-0.3782	0.0008
	(0.809)	(0.963)	(0.062)	(0.085)	(0.227)	(0.615)	(0.868)	(0.995)
LSIZE	0.025	3.9934	-0.0380	0.0369	2.500*	0.0218	4.4411	-0.0873
	(0.888)	(0.155)	(0.266)	(0.952)	(0.090)	(0.289)	(0.120)	(0.546)

(Continued on next page)

Table 4-9 (Continued)

Variables	Information level		Information nature			Information type		
	2nd stage	1st stage	2nd stage	1st stage		2nd stage	1st stage	
	COE	Totalscore	COE	Totalpositive	Totalnegative	COE	Totalhard	Totalsoft
IND	-0.0103	0.9997	-0.0238*	0.1729	0.8809	-0.0074	1.1274	-0.0177
	(0.176)	(0.443)	(0.087)	(0.556)	(0.213)	(0.368)	(0.342)	(0.795)
STATE	-0.0069	-2.3413	-0.0007	0.1473	-0.7153	0.0185	-1.9149	-0.2243
	(0.759)	(0.552)	(0.986)	(0.866)	(0.733)	(0.466)	(0.627)	(0.262)
AGE	0.0007	0.1136	0.0016	0.0368	0.0250	0.0020**	0.0938	-0.0066
	(0.230)	(0.0990)	(0.108)	(0.116)	(0.656)	(0.024)	(0.387)	(0.234)
GROWTH	-0.0010	0.0914	0.0001	-0.0097	-0.0012	-0.0005	0.0986	-0.0022
	(0.648)	(0.820)	(0.969)	(0.913)	(0.996)	(0.845)	(0.806)	(0.914)
ANAL	-0.0004	0.0421	-0.0006	-0.0065	0.0220	-0.0001	0.0385	-0.0009
	(0.361)	(0.568)	(0.406)	(0.693)	(0.577)	(0.901)	(0.603)	(0.813)
CF	0.0755	-1.1680	0.0871	-0.0401	-1.7784	0.0188	-1.2700	0.4452
	(0.177)	(0.906)	(0.333)	(0.985)	(0.734)	(0.778)	(0.898)	(0.376)
LOSS	-0.0462**	-2.7380	-0.0988**	-1.6701**	-0.4203	-0.0296	-2.2441	-0.2864
	(0.034)	(0.475)	(0.013)	(0.045)	(0.833)	(0.238)	(0.558)	(0.142)
INDR	0.1442***	-5.4651	0.1501**	-0.4333	-2.7611	0.0958	-5.4463	0.2241
	(0.006)	(0.542)	(0.073)	(0.824)	(0.555)	(0.112)	(0.543)	(0.622)
Instrument Variables								
Subsidies		3.23e-09***		7.15e-10***	1.49e-09**		2.96e-09**	1.63e-10***
		(0.009)		(0.007)	(0.019)		(0.017)	(0.009)
TotalscoreIA		0.7120***						
		(0.002)						

Table 4-9 (Continued)

Variables	Information level		Information nature			Information type		
	2nd stage	1st stage	2nd stage	1st stage		2nd stage	1st stage	
	COE	Totalscore	COE	Totalpositive	Totalnegative	COE	Totalhard	Totalsoft
TotalpositiveIA				1.1289***	0.2981			
				(0.000)	(0.690)			
TotalnegativeIA				-0.0648	0.5414*			
				(0.574)	(0.052)			
TotalhardIA							0.9474**	-0.0067
							(0.016)	(0.734)
TotalsoftIA							-6.4577	0.8297**
							(0.435)	(0.048)
Hansen J statistic	0.239		0.066			0.261		
(p-value)	(0.6251)		(0.7976)			(0.6097)		
Anderson-Rubin F test	5.90***		12.54***			5.69***		
(p-value)	(0.0033)		(0.0000)			(0.0010)		
Hausman test	6.33		7.06			5.79		
(p-value)	(0.9334)		(0.9322)			(0.9715)		
N[20]	189		189			189		

Dependent and control variables are defined in section 4.3.2.1 and 4.3.2.3. Independent variables are defined in section 4.5.1. COE_{EP} is measured realised earnings in 2016, scaled by the stock prices in 2015. Totalscore (Totalpositive, Totalnegative, Totalhard, Totalsoft) is the total score of positive/negative/hard/soft items disclosed in CSR and annual reports, obtained from the CSR disclosure index in Appendix A. The instrumental variables include the variables of industry average quality of CSR disclosure and subsidies. The industry average quality of CSR disclosure is measured by TotalscoreIA, TotalpositiveIA, TotalnegativeIA, TotalhardIA, and TotalsoftIA. Subsidies refer

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[20] Due to the lack of state subsidy data, the sample size is reduced to 189.

Chinese state subsidies which is ratio of state subsidies to total assets. Beta is the firm's Beta. ROA is the ratio of net income to the total assets at the beginning of 2015. LEV is the total debt scaled by the book value of the total assets in 2015. The total debt is the sum of long-term debt and debt in current liabilities. LSIZE is calculated as the natural log of the firm's market value of equity at the end of 2015. IND is industry indicator, 0 = lower profile and 1 = higher profile. STATE is the ratio of state-owned shares to total shares. AGE is the number of years from the firm is established till 2015. GROWTH is sales revenues in year t minus sales revenues in year t-1 scaled by sales revenue in year t-1. ANAL is the number group of financial analysts following each firm at the end of 2015. CF is the ratio of cash flow from operation to total assets. LOSS is a dummy variable, 0= net income is positive in 2014 and 1= net income is negative in2014. INDR is the ratio of independent directors to the board.

Numbers in parentheses are t-statistics and significance levels are denoted based on two-tailed tests.

* Significant at the 0.10 level.

** Significant at the 0.05 level.

*** Significant at the 0.01 level

4.5   Conclusion

This study takes CSR disclosure, a form of nonfinancial disclosure, to investigate how reporting quality influences the cost of equity. It decomposes the quality of CSR disclosure into more precise measurements, namely disclosure level, type (i.e., hard/soft) and nature (i.e., positive/ negative) and focuses on Chinese firms listed on CSI 300 in 2015.

The findings show the overall CSR information level is positively associated with the cost of equity, which is contradictory to my hypothesis regarding transparency enhancement. The above findings may be explained thus: that most disclosed information is negative, and negative information in both hard and soft form positively affects the cost of equity. Meanwhile, positive information, regardless of information type, is negatively associated with the cost of equity. These findings indicate that shareholders tend to be risk averse and require a higher rate of return for bearing more risk when firms disclose more negative information, which is consistent with Conrad et al. (2002). On the other hand, shareholders are likely to respond to both positive hard and positive soft information by lowering the cost of equity but are not sensitive to hard information. These findings indicate that the impact of information type is conditional on information nature. Therefore, the variations in aspects of disclosures leads to different impacts, suggesting, therefore, CSR disclosure should be measured by various proxies for a more precise understanding.

These findings lead to a number of theoretical and practical implications. First, CSR disclosures classified by information nature and type affect the cost of equity differently, implying that the content of disclosure is important and should be analyzed by various proxies to better understand the complex relations between disclosure quality and risk. Second, this study provides practical insights regarding the development and impact of CSR disclosures in an emerging market.

There are some limitations in this research that may be addressed in the future. First, this study adopts a GRI framework and the CSR disclosure index (Hummel & Schlick, 2016) to measure the quality of CSR disclosure. However, these measurements may not be suitable for Chinese firms, since the key CSR issues addressed in China may not be the same in other countries (Noronha et al., 2013). Second, the investigated firms are all big firms, included in the CSI 300 index, which may not represent median and small-sized firms. In addition, most of them have shares held by Chinese government, which may have led to the underestimation of CSR disclosure, since firms having on governmental background tend to be more motivated to disclosure more CSR information for state subsidies (Lee et al., 2017). Third, this study only investigates big firms for one year. Small- and medium-sized firms may have some special features and they may experience different relationship between CSR disclosure and the cost of equity therefore future studies can be extended by investigating small- and medium-sized firms and observing them for years.

Chapter 5 Impact of CSR disclosures on debt maturity: Evidence from China

5.1 Introduction

This thesis aims to reveal the impact of nonfinancial disclosure on firm's external finance issues in an emerging market. As two main financing resources, equity and debt are very important to firms. Chapter 4 investigates the relationship between the quality of nonfinancial disclosure and cost of equity, while this chapter seeks to explore the relationship between the quality of nonfinancial disclosure and debt contracting. It uses Corporate Social Responsibility (CSR) disclosures as proxy for disclosure of nonfinancial information and reveals the impact of this disclosure on debt maturity among Chinese firms. CSR emphasizes the importance of stakeholders in a changing business environment and suggests that firms should meet the interests of stakeholders, so that it can get support from its communities, such as accessing business resources and reducing employee turnover, to increase profitability and lower costs. In recent decades CSR issues, such as pollution and labor protection, have become more important and has increasingly attracted public attention, since these issues are closely related to stakeholders' interests (Dhliwal et al., 2011). Prior studies have tested the relationship between CSR and debt contracting: for instance, Cooper and Uzun (2015), Du et al. (2017), and Goss & Roberts (2011). These studies have found that CSR performance reduces the cost of debt by enhancing a firm's performance and lowering its risks. In line with these studies, Benlemlih (2015) and Belkhir (2016) further point out that CSR has an impact on debt maturity via firm risk and value. Moreover, CSR disclosures are incrementally informative and value-relevant, which allows them to work as financial disclosures, enhancing transparency and reducing information asymmetry (Cahan et al., 2016; Dhaliwal et al., 2011; Clarkson et al., 2013; Gao et al., 2015; Plumlee et al., 2015). Studies have also found that information asymmetry is associated with debt maturity (Meyere et al., 2018; Flannery, 1986; Ortiz-Moliza & Penas, 2008). However, very few studies have

investigated the relationship between CSR disclosures and debt maturity, while this work seeks to test whether issuing high quality CSR reports helps Chinese firms to access long-term debt.

Prior literature has investigated the relationship between CSR engagement and cost of debt, suggesting that lenders consider CSR performance during the lending decision-making process (Cooper & Uzun, 2015; Ye & Zhang, 2011; La Rosa et al., 2018). For instance, a firm with superior CSR performance is likely to obtain and maintain competitive advantage and generate positive moral capital. This improves a firm's financial performance and reduces a firm's risk, resulting in a lower cost of debt (Ye & Zhang, 2011; Cooper& Uzun, 2015). CSR disclosures not only contain CSR information but also increase a firm's transparency (Dhaliwal et al., 2011). They also show a long-term commitment to engaging in CSR activities and high standards in business ethics (Lins et al., 2017; Ng & Rezaee, 2015; Servaes & Tamayo, 2013). Such disclosures are incrementally informative and provide value-relevant information to reduce information asymmetry between insiders and outsiders (Clarkson et al., 2013; Dhaliwal et al., 2011). Hence, all lenders care about CSR disclosure and value it for lending decisions.

This study focuses on the Chinese market, an interesting setting for investigating CSR, CSR disclosure and debt financing in China, given its unique features (for more details, see section 3.2 and section 3.3.2).

As mentioned in section 3.2, the Chinese government uses controlled business resources as incentives to motivate firm participating in CSR engagement and issuing CSR reports. For instance, the China Banking Regulatory Commission (CBRC) which supervises the Chinese debt market requires commercial banks to develop a series of green-credit policies to seriously address concerns about firm's environmental performance for corporate lending (Du et al., 2017). Accordingly, the Industrial and Commercial Bank of China, the biggest commercial bank, announces

that it only issues loan to firm which obeys and meets the rules on environmental conservation (Du et al., 2017). Furthermore, CSR reports are used as an important alternative information channel to assess a firm's risk in the Chinese market, a highly opaque market. In addition, due to tightly controlled interest rate lenders can only use non-pricing element, such as debt maturity, to price firm's risk. Thus, it would be interesting to connect CSR disclosure with debt maturity to examine how nonfinancial disclosure influences non-pricing contract terms.

From a sample of 224 Chinese firm-year observations in 2015, we find that overall CSR disclosure is significantly related to debt maturity after controlling for firm-specific factors and industry. Moreover, I further decomposed CSR disclosure into different dimensions based on nature and type and tested their impacts on debt maturity respectively. The results suggest that overall level of CSR disclosure is positively associated with debt maturity, while both positive and negative CSR information have significant impact on debt maturity. Moreover, CSR information classified as soft is positively related to debt maturity, however, there is no relationship between CSR information classified as hard and debt maturity. Regarding the combined effect of information nature and type, CSR disclosure containing positive and soft information is negatively associated with debt maturity, while negative and soft CSR disclosure has positively impact. The meanings behind these findings are firms can obtain longer debt maturity by providing more negative CSR disclosure, and firms voluntarily disclosing negative information are considered as highly credible which can signal and build trust between them and lenders. In contrast, lenders consider positive CSR information a signal of misappropriation of business resources harming their interests, then in return they tend to shorten debt maturity as punishment. More importantly, the combined effects of information nature and type on debt maturity shows lenders assess information in a comprehensive way and they are sensitive to information nature conditionally on information type. Therefore, decomposing CSR disclosure into various dimensions and closely studying their complex relations would help us better understand CSR disclosure and its impacts.

This study contributes to the literature and practices regarding the quality of non-financial disclosure and debt financing in three ways. First of all, it advances our knowledge about how nonfinancial disclosure influences debt contracting in terms of the non-pricing element. Prior studies have found a positive relationship between report transparency and debt maturity due to information asymmetry and moral hazard (Flannery, 1986; Diamond, 1991; Berger et al., 2005). According to agency theory, enhanced transparency reduces information asymmetry between insiders and outsiders, which limits managers' opportunistic behaviors (Cheng et al., 2014). Consequently, a firm with fewer agency problems is less risky and lenders are more likely to provide it with long-term debt. Recently, Meyere et al. (2018) investigated the relationship between financial reporting quality and debt maturity and their findings support this argument (Meyere et al., 2018). However, very few studies have focused on the impact of nonfinancial disclosure on non-pricing contract terms (Gong et al., 2016). This study aims to fill this gap by focusing on the impact of CSR reporting quality on debt maturity.

Second, this study investigates nonfinancial disclosure and its impact by building on the work of Plumlee et al. (2015) and Clarkson et al. (2013). It offers more depth of analysis of CSR disclosure by measuring the disclosed CSR information from various dimensions and aggregated influence. Similar to prior studies, this study starts by investigating the total amount, the nature and the type of information involved in CSR (Cheng et al., 2017; Agarwal & Ben-David, 2018; Bertomeu & Marinovic, 2011; D' Aurizio et al., 2015). Then, inspired by Hutton et al. (2003), Bertomeu and Marinovic (2016), Plumlee et al. (2015) and Crifo et al. (2015), it further explores the complex interactions between the nature and type of information, providing detailed discussions about each individual combination, thus filling a gap by investigating each of these information components and their combinations thoroughly.

Third, this study extends our knowledge about CSR disclosure and debt contract in an emerging market. It is valuable for lenders to use nonfinancial disclosure during risk assessment in a highly opaque financial market. This study also provides recommendations to firm on how to signal its quality and differentiate itself from rivals for external financing. Moreover, this study helps regulators further develop policies and more effective ways of regulating and monitoring the market.

The remainder of this study is structured as follows. In the next section, the two theories applied in this study are discussed. The third section reviews the literature on CSR disclosure and debt maturity. In the fourth section, research hypotheses are developed. The fifth section provides model specifications, variable measurements and sample selection. The sixth section reports descriptive statistics, correlation analysis, regression results and additional analyses. Finally, the conclusions are presented.

5.2 Theoretical framework

In this study the relationship between CSR disclosure and debt maturity can be explained by two theories: Signaling Theory and Agency Theory (Benlemlih, 2015), both of which are discussed in detail in the section that follows.

5.2.1 Signaling theory

Information has a significant impact on the decision-making process (Wlt et al., 2013, Carlin et al., 2013) and in many studies perfect information is the fundamental assumption. However, researchers have realized that comprehensive information knowledge is almost impossible in real world settings and classify information into two categories: public and private information, where the former can be freely accessible to the public, while the latter is only available to certain communities. This accessibility disparity refers to the inequality of access to information held by different parties and has often been described as 'information asymmetry' (Connelly et al., 2010). With information asymmetry, the party which has superior knowledge

can make decisions to gain better results at the expense of its counterparts, which then leads to interest conflict, causing greater agency costs (Connelly et al., 2010; Jensen & Meckling, 1976).

Signaling theory, then, aims to explain how the party with more information signals information to others in order to reduce the above-mentioned information asymmetry (Morris, 1987). The signaling process involves the signaler, the signal and the receiver; it refers to the process whereby the signaler sends the signal to reflect the quality of the firm being observed and is interpreted by the receiver for subsequent action (Connelly et al., 2010). A firm that provides high quality disclosures tends to experience less information asymmetry and becomes highly transparent, resulting in high firm value and fewer firm risks. Therefore, to outsiders, high quality disclosures work as signals to differentiate high quality firms from low quality ones, which is very important during the investment decision making process.

CSR disclosure affects a firm's ability to access external finance and lowers the cost of debt via two approaches, contained CSR performance information and enhanced firm transparency (Dhaliwal et al., 2011; Cheng et al., 2014; Gao et al., 2015). Firstly, CSR performance has an impact on firm risks and profitability and can work as a signal to help lenders differentiate high-quality firms from low-quality counterparts (El Ghoul et al., 2011; Koh et al., 2014; Lins et al., 2017, Clarkson et al., 2008). Ng and Rezaee (2015) suggest that CSR performance shows firm's long-term commitment to sustainability and reflects firm's favorable attitudes towards stakeholders. A firm with superior CSR performance is interpreted as socially responsible, which leads to mutual trust between firm and stakeholders, and the support of stakeholders (Jones, 1995). Consequently, such firms tend to have fewer lawsuits and better financial performance, which leads to lower perceived risk and enhanced firm quality, resulting in easy access to the debt market (Benlemlih, 2015). Moreover, a well-performing firm is likely to build and retain competitive advantages (Kim et al., 2018) through enhanced sales (Servaes & Tamayo, 2013), accessing more

intangible assets (Wang & Choi, 2013) and lowering the cost of employee turnover (Surroca et al., 2010). Superior CSR performance reflects managers' ethical concerns (Cho et al., 2013) regarding identify, preventing risks and preserving a firm's reputation (Koh et al., 2014), thus accumulating positive moral capital (Koh et al., 2014). When a business crisis happens, the cumulated positive moral capital works as an insurance mechanism to decouple legitimate activities from the rest of the firm and minimize penalties. As a consequence, a firm which performs well in CSR activities tends to generate more profits with fewer perceived risks, thus increasing its long-term sustainability (Cheng et al., 2014; El Ghoul et al., 2011). Hence, lenders tend to lower monitoring requirements and become more willing to provide such firms with long-term debt.

Secondly, CSR disclosure, a form of nonfinancial disclosure, provides value-relevant information and has the same impact as financial disclosure on a firm's performance and risks. Prior studies have suggested that a firm is encouraged to disclose information about its CSR performance even if the CSR result is not satisfactory (Dhaliwal et al., 2011). A higher quality of CSR disclosure improves stakeholder engagement and the transparency of the firm (Cheng et al., 2014), leading to better monitoring, reducing managers' opportunistic behaviors and lowering agency costs (De villiers & Van Staden, 2010; Dhaliwal et al., 2014). Therefore, a high quality of CSR disclosure is regarded as representing high transparency, high monitoring, low transaction costs and low perceived risks among lenders. Moreover, the literature suggests that, in a highly opaque market, CSR disclosure is incrementally informative and very useful to outsiders' better assessment of firm risks (Clarkson et al., 2013; Dhaliwal et al., 2014). Therefore, firms that issue high quality CSR disclosures are likely to obtain high creditworthiness and access to long-term debt.

5.2.2 Agency theory

The literature suggests that an agency problem is caused by conflicts between principles and agents and has two forms, namely moral hazard and adverse selection

(Jesen & Meckling, 1976). Due to the separation of ownership and management, principals employ agents to act on behalf of their own interests. However, since the interests of agents are different from those of principals and information asymmetries exist between them, agents might use their power to pursue their own interests at the expense of the principals. According to Dalton et al. (2007) the increase in monitoring, connecting agents' interests with principals' interests, and replacing agents, are three possible ways to limit and remove the agency problem. In debt issues there are normally two kinds of agency problems, namely between lenders and managers, and/or between lenders and shareholders. In the first situation, managers are likely to invest in bad projects to pursue their owner interests at the expense of shareholders and lenders. In the latter circumstance, shareholders tend to invest in risky projects for additional gain and force lenders to share losses (Lopez-Gracia & Mestre-Barbera, 2015). Therefore, lenders have to strictly monitor managers and investors to avoid bad and risky investment projects by imposing shorter maturity. In contrast, for firms with fewer agency, problems lenders require less monitoring and are likely to provide long-term debt.

In this study agency theory can be applied on two tiers, CSR level and disclosure level, to explain the impact of CSR disclosure. On the CSR level, agency theory provides two controversial perspectives on the relationship between CSR performance and debt maturity. The former perspective suggests that CSR engagement improves the relationship between firm and stakeholders and that superior CSR performance indicates the firm's commitment to social responsibility and a high standard of business ethics. Thus, a firm with superior CSR performance is self-motivated to act in a socially responsible way, which is more efficient than using incentives and a monitoring system to reduce opportunism (Cheng et al., 2014; Jones 1995:420).

Due to the efficient limitation of opportunistic behaviors, a firm with a superior CSR performance tends to have lower agency costs and experiences an increase in profitability and a reduction of risk, which increases lenders' willingness to provide

finance and prolong debt maturity. However, the latter perspective argues that CSR engagement might reflect an agency problem, since managers might use corporate resources to participate in CSR activities to pursue self-interest and cover corporate misconduct (McWilams et al., 2006; Hemingway & Maclagan, 2004). Meanwhile managers are likely to mislead lenders' estimates of firm performance and value, increasing the agency problem. Therefore, it is important that lenders minimize the free cash flow controlled by managers for inefficient investment and monitor the firm more frequently. In this way, a firm transfers the control to lenders, so lenders tend to finance firms with short-term debt, which increases a firm's bankruptcy risks and motivates managers to enhance the efficiency of fund utilization (Jensen, 1986; Benlemlih, 2015; Hart and Moore, 1994). Thus, agency theory suggests that CSR has an impact on debt maturities, but their relationship is not clear. This study further investigates the impact of CSR disclosure on debt maturity, advancing our knowledge regarding how CSR disclosures influence agency problems related to debt maturity.

Second, CSR disclosure as a form of nonfinancial disclosure provides incremental value-related information that affects a firm's perceived risk and future performance (Dhaliwal et al., 2011; Clarkson et al., 2013). The literature suggests that well-performing firm tend to disclose more information to highlight their high quality and to a build positive image to attract investors (Dhaliwal et al., 2011, Cho et al., 2013; Clarkson et al., 2008). Cheng et al. (2014) argue that CSR disclosure reduces information asymmetry and enhances stakeholder management to improve internal control system, which leads to better monitoring and minimizes the likelihood of short-termism. Therefore, high quality CSR disclosure means high transparency, better monitoring, lower transaction costs and low perceived risks to lenders, which helps firm to obtain long-term debt.

Some studies have also found that disclosures can increase information asymmetry (Fu et al., 2012; Van Buskirk, 2011). For example, Fu et al. (2012) argue that sophisticated investors have the expertise to better understand disclosed information

and benefit from it, so they are motivated to acquire private information about forthcoming disclosures, leading to higher information asymmetry between sophisticated and unsophisticated investors. In consequence, firms having higher information asymmetry tend to experience more adverse selection costs, as investors consider it to be more risky and tend to provide short-term debt to reduce such costs (Flannery, 1986).

In sum, this study uses signaling theory and agency theory to analyze the impact of CSR disclosure on debt maturity. According to signaling theory, lenders consider the quality of CSR disclosure as a signal of a firm's value and risk and make lending decisions based on this consideration. Agency theory predicts that CSR disclosure increases a firm's transparency and so limits agency costs. Meanwhile, CSR disclosure can lead to a higher information asymmetry agency problem. Therefore, these two theories do not provide a consistent conclusion of how CSR disclosure influences a firm's risk. However, since a firm's value and risk are important in the lending decision, the impact of CSR disclosure on debt maturity remains unclear. This study tries to fill this gap by investigating CSR disclosure and its impact on debt maturity among Chinese firms.

5.3 Literature Review

5.3.1 Debt maturity

Prior literature has suggested that a firm's risk and profitability affect debt contracting through pricing elements, the cost of debt, non-pricing elements, and debt maturity (Dhaliwal et al., 2011; Dhaliwal et al. 2014; Garcia-Teruel et al., 2010). This study focuses on debt maturity and aims to reveal how lenders assess a firm's risks to decide debt maturity.

Some studies focusing on debt maturity emphasize the significant impact of risks on debt financing (Guedes & Opler, 1996; Flannery, 1986; Diamond, 1991; Berger et al., 2005; Gopalan et al., 2014), categorized as information asymmetry and agency

problems, and their impact on debt maturity is investigated respectively (Flannery, 1986; Diamond, 1991, Berger et al., 2005; Garcia-Teruel et al., 2010). Kahl et al. (2015) provide two hypotheses – the asymmetric information hypothesis and the moral hazard hypothesis - to explain how the agency problem influences debt maturity. The Asymmetric information hypothesis suggests that a firm with lower information asymmetry tends to experience lower agency problems so that it requires less monitoring, resulting in a lower cost of debt and longer debt maturity (Kahl et al., 2015; Garcia-Teruel et al., 2010). On the other hand, the moral hazard hypothesis suggests that short-term debt can discipline managers to reduce the possibility of the moral hazard problem and lower the corresponding costs by increasing lenders' monitoring (Diamond, 1991; Lopez-Gracia & Mestre-Barbera, 2015). In addition, Lopez-Gracia and Mestre-Barbera (2015) focus on interest conflicts between shareholders and lenders on debt issues, as discussed above. This agency problem can be solved by using short-term debt, since this allows creditors to be repaid more frequently and to assess a firm's ability to avoid bad projects more frequently (Dewatripont & Tirole, 1994; Zwiebel, 1996).

To sum up, debt maturity is associated with a firm's performance and risks. A firm that has low information asymmetry and few agency problems is likely to access long-term debt due to that firm's high quality and low perceived risks.

5.3.2 CSR disclosure and debt maturity

CSR disclosure influences a firm's value and risk from two perspectives: contained CSR performance information and transparency. Meanwhile, debt maturity, as a kind of non-pricing contracting term, is determined by perceived firm risks and value. Consequently, CSR disclosure has an impact on debt maturity through influencing a firm's value and risk.

Some studies investigating the relationship between CSR and debt maturity have generated mixed findings (Benlemlih, 2015; Belkhir et al., 2016; Goss & Roberts, 2011). Benlemlih (2015) takes the risk reduction point of view to discuss how superior CSR performance relates to the increased use of short-term debt. Firstly, CSR performance has an impact on a firm's perceived riskiness, reflecting debt maturity. Firms with a superior CSR performance tends to have lower perceived riskiness, in terms of litigation and financial risks (Koh et al., 2014; Oikonomou et al., 2012). Meanwhile, CSR engagement is a signal of efficient usage of internal resources, reflecting a firm's creditworthiness (Attig et al., 2013). Therefore, rating agencies rate firms with CSR engagement as having good credit quality, allowing the firm better access to the debt market (Attig et al., 2013; Benlemlih, 2015).

However, high quality firms with high credit ratings tend to continue to use short-term debt to signal its good quality to the market (Diamond, 1991). Secondly, debt holders can use debt maturity to limit a firm's overinvestment in CSR activities (Benlemlih, 2015; Lopez-Gracia & Mestre-Barbera, 2015). Due to CSR-related compensation, career concerns, and power and entrenchment, managers have incentives to overinvest in CSR activities at the cost of shareholders (Hong & Minor, 2016; Fabrizi et al., 2014). Short-term debt payment reduces free cash flow under the control of managers, therefore forcing managers to reduce investment, which mitigates the agency problem (Lopez-Gracia & Mestre-Barbera, 2015). Meanwhile, short maturity increases bankruptcy risks, which monitors managers and motivates them to increase the efficiency of fund utilization (Hart & Moore, 1994). Therefore, superior CSR performance leads to shorter debt maturity. This conclusion is supported by the work of Belkhir et al. (2016), who focus on labor protection issues, providing two positive reasons for this. Enhanced labor power can disrupt labor behavior, which increases a firm's default risk. When a firm goes bankrupt, lenders have difficulties in repossessing collateral and liquidating the firm. Meanwhile, labor protection enhances the bargaining power of workers, which changes the degree of information asymmetry between insiders and outsiders. As a result, lenders have to adjust the debt maturity

structure to protect their interests. In contrast, Goss and Robert (2011) find a positive relationship between CSR performance and debt maturity, indicating that CSR reduces idiosyncratic risk and creates competitive advantage, which will be priced in debt contracting terms. This chapter seeks to shed light on this and further studies on how CSR disclosure affects a firm's risks and price in debt maturity.

CSR disclosure provides incremental information to increase a firm's transparency and lower a firm's perceived risks resulting in longer debt maturity. As discussed in section 5.2.2.2, disclosures mitigate information asymmetry, which leads to a lower possibility of opportunistic behavior, higher investment efficiency and less expropriation of investor wealth (Garcia-Teruel et al., 2010). Moreover, the information asymmetry between insiders and investors plays an important role in determining a firm's debt maturity (Garcia-Teruel et al., 2010; Flannery, 1986, Diamond, 1991). Meyere et al. (2018) suggest that a higher quality of financial disclosure leads to longer debt maturity. The higher quality of financial disclosure reduces information asymmetry between insiders and outsiders which leads to higher efficiency of investments, less expropriation of investors' wealth and an increase in the forecasting accuracy of future cash flows (Meyere et al., 2018; Garcia-Teruel et al., 2010). Therefore, Meyere et al. (2018) predict creditors' better assessment of a firm's creditworthiness. Meanwhile, the higher quality of financial disclosure enhances a firm's transparency, which reduces the need for monitoring. Consequently, firms issuing higher quality financial reports are more likely to have access to long-term debt. CSR disclosure shares the same impact as financial disclosure on firm's value and risk. This study contributes to the literature by investigating the impact of non-financial disclosure on debt maturity through firm risk.

5.3.3 CRS disclosure in China

Recently, there has been a growing trend to study Chinese CSR disclosure in academia. Most of these studies investigate the determinants of CSR and CSR disclosure and only a few studies focus on the impact of CSR disclosure (Cumming et

al., 2016) (for details, see section 4.2.2.3).

As discussed in previous chapter (also see section 4.2.2.3), CSR disclosure is negatively associated with information asymmetry among Chinese firms. Gong et al., (2016) study the quality of CSR disclosure and its impact on the costs of corporate bonds in China. Their findings indicate that CSR disclosure is incrementally informative, which is consistent with Clarkson et al., (2013) and suggests that high quality CSR disclosure reduces information asymmetry between firm and investors, thus lowering the cost of corporate bonds. They also compare the difference between voluntary and mandatory CSR disclosure and find the signaling effect of mandatory CSR disclosure to be much weaker than its voluntary counterpart. Further, Chen et al. (2018) focus on mandatory CSR disclosure and investigate its impact on a firm's performance and social externalities. They argue that mandatory CSR disclosure increases a firm's transparency, allowing governments and interest groups to pressure firms and thus increase CSR engagement. Consequently, this may lead to overinvestment in CSR issues, resulting in loss of value. In summary, these studies focus on Chinese listed firms to examine the association between CSR disclosure and firm risk. However, the relationship between CSR disclosure and debt contracting terms remains unknown. This study seeks to fill this gap by investigating the quality of CSR disclosure in depth and exploring its impact on debt maturity among Chinese listed firms.

5.4 Hypotheses development

This section provides a detailed discussion of the quality of CSR disclosure and its impact on debt maturity. The quality of CSR disclosure is measured on four dimensions, including information level, information nature and information type. Based on the reviewed literature, hypotheses are developed.

5.4.1 Information level

Prior studies suggest that disclosure is associated with both a firm's ability to have access to external finance and the cost of capital (Dhaliwal et al., 2014; Cheng et al., 2014). Information asymmetry and a firm's transparency affect outsiders' perceptions towards a firm's risk and value, resulting in investment decisions (Ellul et al., 2016; Dhaliwal et al., 2014). Information asymmetry is a main obstacle to accessing external finance because the availability of limited and accurate information means that outsiders struggle to identify a firm's quality in terms of risk and value, especially for firms with a high level of opacity (Moro et al., 2015). Working as the communication channel between firm and outsiders, disclosures reduce information asymmetry and enhance firm transparency (Meyere et al., 2018; Armstrong et al., 2010; Garcia-Teruel et al., 2010). Accordingly, less information asymmetry and a higher level of transparency limit managers' opportunistic behaviors, which reduces agency problems, resulting in an easing of the need for monitoring (Dhaliwal et al., 2014). Moreover, a high quality of disclosure helps outsiders to access a firm's creditworthiness more reliably by forecasting the firm's future cash flows more accurately (Meyere et al., 2018; Dhaliwal et al., 2012). Ultimately, disclosures reduce transaction costs and lower transaction costs stimulate lenders' willingness to demand securities, resulting in higher liquidity (Botosan, 1997, Dhaliwal et al., 2014). Hence, a firm experiencing lower perceived risks, higher firm value and enhanced liquidity is more likely to access external finance with better contracting terms and a lower cost of capital.

Prior studies show CSR disclosures have an impact on a firm's value and perceived risk through enhanced transparency. Dhaliwal et al. (2014) investigated the relationship between the initiation of CSR disclosure and cost of equity and found that CSR disclosure works as a substitute for a financial statement to increase a firm's transparency and reduce agency problems. Their study only touches the surface of disclosure, not their content. Clarkson et al. (2013) further evaluated the quality of environmental disclosure by weighted disclosure levels and found that a higher

quality of environmental disclosure is associated with a lower cost of equity. Again, this finding supports the argument that the quality of such disclosure reduces information asymmetry. In line with their work, this study focuses on the detailed information disclosed in CSR reports and reveals its influence on debt financing.

As discussed above debt maturity is a kind of non-pricing contracting term and is influenced by a firm's quality and risks (Gong et al., 2016). Prior studies suggest that a high quality firm is less likely to have high risks, therefore lenders tend to attribute greater creditworthiness to it; they therefore tend to demand a lower level of monitoring and are likely to provide long-term debt with better contracting terms (Moro et al., 2015). However, a poor quality firm is likely to be exposed to high risks, and lenders are risk averse, so lenders tend to monitor the firm closely, providing short-term debt to enhance monitoring and reduce potential losses. CSR disclosures increase a firm's transparency and reduce perceived risks so that lenders do not need to force the firm to report its performance and assess its risks periodically (Jun & Jen, 2003). As a result, CSR disclosure is expected to be positively related to debt maturity.

Due to the high level of financial opacity in the Chinese market, CSR disclosure helps lenders to differentiate high quality Chinese firms form low quality firms (for more details see sections 4.2.2 and 4.3.2). However, some studies have found that firms may not disclose more information because disclosures make a firm's operation more visible to its rivals and the tax authorities resulting in a loss of competitive advantage and a reduction in their ability to elude taxation (Ellul et al., 2016; Moro et al., 2015). Furthermore, Chen et al. (2014) point out that, when *guanxi* (interpersonal ties, relationships or connections with other firms, government agencies and bureaucrats) plays an important role in a business, a firm is less likely to voluntarily disclose more information. They argue that the dark side - the uniqueness and secrecy of *guanxi* - means that firms relying heavily on *guanxi* are not willing to disclose information, to avoid competitors seeing through the network of relationships and imitating them.

Moreover, due to the dark side of *guanxi*, for instance nepotism, cronyism and even corruption, detailed disclosures reveal sensitive information to dissatisfy connected parties. In line with Dhaliwal et al. (2014), my first hypothesis focuses on disclosure levels and stated as follows:

Hypothesis 1: The level of CSR information is positively related to debt maturity among Chinese firms.

5.4.2 Information nature and type

As discussed above (for more details, see section 4.2.3.2), it is meaningful to break down CSR disclosure into information components, information nature and information type, for a better understanding the impact of CSR disclosure on a firm's perceived risk. This section focuses on information nature and information type to investigate their impacts on debt maturity.

5.4.2.1 Information nature

Prior literature suggests that the impact of good news and bad news varies and that investors care about information nature (Chen & Ghysels, 2011; Ho et al., 2018; Soroka, 2006; Plumlee et al., 2015). Chen and Ghysels (2011) examined the relationship between information nature and stock volatility and found that good news reduces expected volatility but very good news increases volatility. These findings show that positive information leads to risk reduction and very good information causes risk increase suggesting the impact of good news on information users' perception may vary based on different circumstances. Regarding CSR disclosure, good news may not be good to lenders for several reasons. First, investment in CSR issues is costly and the benefit of CSR engagement cannot be realized in the short term (Oh & Chang, 2011). Second, superior CSR performance enhances stakeholders' wellbeing at the expense of investors', and its financial payoffs may not cover costs, which often lead to a decrease in profitability and an increase in a firm's risk (Fridman, 1977; Oh & Chang, 2011; Richardson & Welker, 2001). Third, lenders face

an asymmetric payoff, meaning that they have to share risks with shareholders passively but can only receive interest as compensation. Due to these reasons, the issuance of CSR good news may lead to increasing concerns of lenders. Therefore, a firm disclosing positive CSR information is less likely to obtain long-term debt.

On the other hand, the disclosure of negative information is a signal of a firm's conservatism in terms of enhancing transparency and reducing information asymmetry, resulting in lower perceived firm risk. It is understandable that a firm has an incentive to hold or delay the disclosure of negative information (Kothari et al., 2009). However, a firm under conservatism tends to disclose bad news in a timely fashion (Beekes et al. 2004). LaFond and Watts (2008) argue that conservative accounting can reduce information asymmetry by providing non-pricing verifiable information on a firm's performance to information users and using this verifiable information as a benchmark for unverifiable information to generate credibility. In this way, conservatism can assure investors that positive information will not be overstated, and negative information will not be unstated. D'Augusta (2018) further points out that conservatism can mitigate the surge in perceived risk after disclosure of negative information, by preventing the accumulation and partial disclosure of negative information. This is because a firm that follows this conservative principle tends to disclose negative information in a timely manner, thus shortening the amount of benefits that accrue from hiding bad news and further encouraging the complete disclosure of bad news. Therefore, the voluntary disclosure of negative information signals conservatism, resulting in high transparency and lower perceived firm risk.

Furthermore, regarding CSR disclosure, negative CSR information may not be bad for lenders (Groening & Kanuri, 2013). Groening and Kanuri (2013) argue that investors must consider the costs of being socially responsible. When the financial downside caused by a negative CSR event is less costly than correcting it, investors may not punish the firm for being socially irresponsible. Jahn and Bruhl (2019) further point out that the negative information may have two side effects including a positive effect driven by corporate honesty and a negative effect due to the negative information itself. They suggest due the voluntary nature and negative effect of bad news, namely a firm disclosing negative CSR information, is considered as honest, or having an

'internal disposition to tell the truth' (Jahn & Bruhl, 2019). On the other hand, since the disclosure of negative CSR information is a managerial decision, it shows that the firm follows conservative principles which allows it to provide an explanation for poor CSR performance, which reduces the possibility of them being sued in the future. Therefore, the disclosure of negative information may have a positive effect on managing investors' perceptions towards the firm.

To sum up, negative CSR information may not be considered as a negative signal to lenders. By contract, the disclosure of negative news reflects that firms follow conservative principles and build trust with lenders. Consequently, firms disclosing negative CSR disclosure tend to have access to long-term debt. Therefore, my second hypothesis is as follows:

Hypothesis 2: Positive CSR information is negatively related to debt maturity among Chinese firms, while negative CSR information is positively related to debt maturity among Chinese firms.

5.4.2.2 Information type

As previously stated, the literature categorizes information into two types, hard and soft (Clarkson et al., 2008; Hutton et al., 2003; Plumlee et al., 2015). Hard information is objective and quantitatively verifiable information that tends to be standardized (Liberti & Petersen, 2019), while soft information is unverifiable. Standardization allows hard information to be easily communicated between a firm and lenders, allowing lenders make a comparison between firms (Liberti & Petersen, 2019). In consequence, hard information is considered to be informative and reliable, increasing the transparency of the firm. As a result of this transparency, lenders tend to be less skeptical and are more likely to provide long-term debt.

Soft information is subjective and indicative unverifiable information and is often described in qualitative statements (Clarkson et al., 2008; Plumlee et al., 2015; Liberti & Petersen, 2019). Some researchers believe that soft information is not credible since it is hard to verify and may not necessarily be truthful (Plumlee et al., 2015; Bertomeu & Marinovic, 2016). Soft information only plays a minor role in disclosure and works as a supplementary to hard information. Conversely, Liberti and Peterson (2019) argue that soft information is valuable because it is informative and accurate, in that it contains more information compared with hard information. When soft information is replaced by hard information, a loss of information is likely. Meanwhile, since data collection and use cannot be separated, soft information is more accurate. Dorfleitner et al. (2016) further argue that soft disclosure is more important than hard information when the availability of hard information is limited, and the level of financial opacity is high. For small business loans, soft disclosure is particularly useful for assessing default risk (Chen et al., 2015). This research intends to reveal the impact of information type on a firm's transparency, as reflected in contract terms.

Prior literature has suggested that soft and hard information are the strategic choices of managers (Da Silva Pinheiro, 2013; Marinovic, 2013). Sumit and Itzhak (2018) suggest that both hard and soft information are informative and should be considered in credit assessment in the loan approval process. They find that the assessment of soft information helps to improve the quality of approved loans. Brockman and Cicon (2013) further pointed out that soft information is particularly important and more informative when a firm is small and opaque; and when such a firm is in a highly uncertain information environment and in industries with high growth potential. Later, Bertomeu and Marinovic (2016) argued that hard information released after soft information provides evidence of the truthfulness of the prior soft information. Due to the constraints of telling the truth, managers may not always send true soft information to lenders, and lenders are likely to be uncertain about the discretion of disclosure, requiring proof. Since the realization of hard signals is correlated to the truthfulness of soft information, hard information plays a monitoring role and works

as an alternative channel of communication. The third hypothesis is stated as follows:

Hypothesis 3: The association between CSR disclosure and debt maturity is positive, regardless of the type of disclosure by Chinese firms.

5.4.2.3 The combinations of information nature and type

This section provides an in-depth discussion about the combinations of information nature and type and investigates their impacts on debt maturity.

5.4.2.3.1 The positive hard CSR information

Good news is a positive signal to investors showing the reduction of firm risk resulting in the increase willingness of investment (for more details, see section 4.2.3.2.1). However, as discussed in section 5.4.2.1, positive CSR information may not be good or even bad to lenders since it implies the appropriation of resources and agency problem. Meanwhile, lenders face asymmetric payoffs from which they will only make limited gain but bear the risk of losing their entire investment. Therefore, lenders tend to be concerned about positive CSR information.

Like shareholders, lenders give high credit for the truthfulness of good news, when it disclosed in hard information. Accordingly, the disclosure of positive hard CSR information enhances lenders' worries about the loss of their interests. This leads to my hypothesis, regarding the relationship between positive soft information and debt maturity.

Hypothesis 4A: Positive hard CSR information is negatively related to debt maturity in Chinese firms.

5.4.2.3.2 The positive soft CSR information

Similar to shareholders, lenders also doubt the credibility of good news disclosed as soft information, due to skepticism concerning managers' motives for disclosure and

the unverifiable nature of soft information (for more details, see section 4.2.3.3.2). However, since positive CSR information may not be good news to lenders (for more details, see section 5.4.2.1), lenders may respond to positive soft information negatively. Meanwhile, lenders only receive predetermined interest payments and cannot gain additional return from good news, therefore they tend to be more cautious about good news, even where it is verified as such. This leads to my hypothesis about the relationship between positive soft information and debt maturity.

Hypothesis 4B: Positive soft CSR information is negatively related to the debt maturity in Chinese firms

5.4.2.3.3 The negative hard CSR information

In section 5.4.2.1, I posit that negative CSR information has positive impact on lenders' perception towards firm's credibility resulting in longer debt maturity. Meanwhile, due to the voluntary nature and verifiability, negative hard CSR information enhances lenders' impression about firm and strengthens their trust in the firm. Therefore, this leads to my hypothesis about the relationship between negative hard information and debt maturity.

Hypothesis 4C: Negative hard CSR information is positively related to debt maturity in Chinese firm.

5.4.2.3.4 The negative soft CSR information

As discussed in section 5.4.2.1, the disclosure of negative CSR information builds and enhances lenders' perceived trustworthiness of the firm which increases lenders' willingness of providing long term debt. Meanwhile, the literature suggests that soft information is likely to contain more uncertain and negative information (Bertomeu & Marinovic, 2016). Due to the voluntary nature and the contradiction to firm incentives, negative CSR information is considered highly credible (for more details, see section 5.4.2.2). Therefore, for lenders, the impact of negative soft information on debt

maturity may be the same as that of hard negative information. This leads to my hypothesis about the relationship between negative soft information and debt maturity.

Hypothesis 4D: Negative soft CSR information is positively related to debt maturity in Chinese firms

5.5 Research design, variable measurement, and sample selection

In this section, research design, variable measurement and sample selection are presented. The research design includes a regression model, the measurement of all variables. In the variable measurement section the measurement method of CSR disclosure and debt maturity is discussed in detail (for more details, see Table 5-1). Last, the sample selection section presents the data source and sample size.

5.5.1 Model specification

According to the hypotheses, the regression model is formed as follows:

$$DMAT_{LDi,t} = \alpha + \beta_1 CSRDIS_{i,t} + \beta_2 AM_{i,t} + \beta_3 ROA_{i,t} + \beta_4 LEV_{i,t} + \beta_5 LSIZE_{i,t} + \beta_6 IND_{i,t} + \beta_7 STATE_{i,t} + \beta_8 AGE_{i,t} + \beta_9 CF_{i,t} + \beta_{10} GROWTH_{i,t} + \beta_{11} ANAL_{i,t} + \varepsilon$$

5.5.2 Variable measurement

5.5.2.1 Debt Maturity

$DMAT_{LD}$ - is debt maturity. In the literature there are several methods to measure debt maturity, namely the ratio of long-term (short-term) debt to total debt; the natural log of years for maturity; and the ratio of long-term (short-term) debt to total assets (Abdulla et al., 2015; Berger et al., 2005; Gopalan et al., 2014; Wang et al., 2020). Among these the first method, the ratio of long-term debt to total debt, is the most widely used and is adopted in this research (Awartani et al., 2016; Barclay et al., 1995; Brick & Liao, 2016; Brockman et al., 2010; Platikanova, 2015). Debt maturity is measured as the long-term debt scaled by the total debt in 2016 (Awartani et al., 2016; Belkhir et al., 2016). Long-term debt refers to debt maturing for more than one year

where the total debt is the sum of long-term debt and debt in current liabilities.

5.5.2.2 CSR disclosure

CSRDIS – is the quality of CSR disclosures in 2015. It is evaluated from four dimensions, namely disclosure level (Total Disclosure); disclosure nature (Disclosure Nature); and disclosure type (Disclosure Type). The measurements of these variables are discussed in the previous research design section (see 4.3.2.2).

5.5.2.3 Control variables

Following prior studies (Belkhir et al., 2016; Benlemlih, 2015; Ben-Nasr et al., 2015), this research controls the given firm characteristics that may affect the firm's debt maturities. Some control variables are measured in the same way, as presented in section 4.3.2.3.

AM – Myers (1977) suggests that, when a firm has to use debt to finance a profitable project, shareholders tend to relinquish this investment since they have to bear all the risks but also need to share the gains of the investment with lenders. The optimal schedule of debt repayments is related to the durability of the project's assets. Hence, matching the firm's debt maturity to assets maturity can mitigate this underinvestment problem. AM is the asset maturity computed as the weighted average of the maturities of long-term and current assets (Belkhir et al., 2016). The maturity of long-term assets is calculated as gross property, plant and equipment, scaled by depreciation expenses, while the maturities of current assets is measured as current assets scaled by the cost of goods sold.

ROA – Return-on-assets is a proxy for the quality of the firm's investment projects. Long-term debt is more likely to be due to mispricing than short-term debt: as result, firms with better quality investment tend to use more short-term debt (Awartani et al., 2016). Thus, ROA is expected to be negatively associated with debt maturity; its measurement is mentioned in section 4.3.2.3.

LEV – A highly levered firm is exposed to greater liquidity and default risks, therefore it is more likely to borrow long-term debt to mitigate this (Awartani et al., 2016). The measurement of the leverage ratio is discussed in section 4.3.2.3.

LSIZE – LSIZE refers to firm size, which is associated with debt maturity, since a bigger firm is likely to suffer less from information asymmetry and have a better financial performance (Custodio et al., 2013; Johnson, 2003). Therefore, a bigger firm can better access long-term debt. LSIZE is measured in the same way presented in section 4.3.2.3.

IND – IND is the industry indicator, as discussed in section 4.3.2.3.

STATE – This refers to a firm's state ownership. Jiang and Kim (2015) suggest that most of business resources are controlled by the Chinese government, thus building and maintaining a good relationship with government becomes important. The measurement of this variable is discussed in section 4.3.2.3.

AGE refers to a firm age. Younger firms are likely to have higher rate of failure which makes them become riskier, when compared to long established firms (Leeth & Scott, 1989). Therefore, lenders tend to shorten debt maturity among younger firms. This measurement is presented in section 4.3.2.3.

CF indicates that firms having higher cash flows tend to have lower perceived risk, since they tend to be able to pay their debts (Bliss & Gul, 2012). It is calculated as cash flow from operations scaled by total assets (Dhaliwal et al. 2011).

GROWTH refers to growth opportunities. Firms having high growth opportunities are likely to experience underinvestment problems, which can be solved by shortening the debt maturity (Myers, 1977). Its measurement is in section 4.3.2.3.

ANAL refers to information acquired by analysts via public or private information which indicates firms' outside monitoring. Thus, firms having more following analysts tend to have richer information environment and lower perceived risk resulting in longer debt maturity (Kim & Shi, 2011). The measurement is presented in section 4.3.2.3.

Table 5-1 Variable descriptions and sources

Variable	Measurement	Source
Dependent variable		
$DMAT_{LD\ i,t}$	Debt maturity, long-term debt as a percentage of total debt	CSMAR
Independent variable		
$CSRDIS_{i,t}$	The quality of CSR disclosure，disclosure score including hard; soft; positive and negative information	2015 CSR reports
$AM_{i,t}$	Asset Maturity, the weighted average of the maturities of long-term assets and current assets	CSMAR
$ROA_{i,t}$	Return on assets, the ratio of net income to total assets	CSMAR
$LEV_{i,t}$	Leverage ratio, the ratio of total debt divided to book value of total assets	CSMAR
$LSIZE_{i,t}$	Firm size, the natural log of market value of equity	CSMAR
$IND_{i,t}$	Industry indicator, dummy variable: 1= high profile industry, 0= medium profile industry	CSMAR, CSRC
$STATE_{i,t}$	State Ownership, state owned shares scaled by the total shares	CSMAR
$AGE_{i,t}$	Firm age, the between the year the firm established between 2015	CSMAR

Table 5-1 (Continued)

Variable	Measurement	Source
CF $_{i,t}$	the ratio of cash flow from operations to total assets	CSMAR
GROWTH $_{i,t}$	Sales growth, sales revenues in year t minus sales revenues in year t-1 divided by sales revenue in year t-1	CSMAR
ANAL $_{i,t}$	the number group of financial analysts following each firm at the end of year t	CSMAR

5.5.3 Sample selection

As discussed in section 4.3.3, after deducting financial institutions and firms without any CSR disclosure, 224 firms were left for investigation. Due to missing data in CSMAR, the final sample ultimately became.

5. 6 Empirical results and findings

In this section descriptive statistics, correlation analysis and regression results are presented and discussed.

5.6.1 Descriptive statistics[21]

Table 5-2 presents descriptive statistics of variables. Panel A is about CSR disclosure, including disclosure level, type, and nature. The means of positive and negative disclosure are 1.1116 and 3.0804, respectively, while their standard deviations are 1.6075 and 4.0626. The mean of hard disclosure is 6.6161 while the mean of soft disclosure is 0.1563. These factors show that firms disclose more hard information and disclosure levels vary greatly. Moreover, the hard information is the most frequently disclosed, which supports the above findings.

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[21] As discussed in Section 4.4.1 footnote 18, all variables excluding 'Positivesoft' are winsorized at level 1% and 99% levels.

In table 5-2 panel B reports the descriptive statistics of debt maturity. The minimum is 0.000 and the maximum is 0.8780, which does not constitute a large difference. The mean of debt maturity is 0.2641, which is consistent with Jiang and Kim (2015), who note that most Chinese listed firms' debt is short-term. Panel C presents the descriptive statistics of the control variables. It is notable that analysts group has a large variations, from 0 to 39, the mean being 12.4955. Moreover, the variation of asset maturity is also large, ranging from 2.0071 to 39.3761 and the mean of asset maturity is 9.100. The means of AGE is 16.3795 and that of LEV is 7.6940.

Panel D is about the frequency of dummy variable, Industry. About 28% of firms are sensitive to CSR issues.

Table 5-2 Descriptive Statistics

Variables	N	Mean	Std. Deviation	Minimum	Maximum	Median	Skewnese	Kurtosis
Panel A: Descriptive statistics of CSR disclosure								
Totalscore	224	6.7768	8.0221	0	34	4	1.4977	4.7756
Totalpositive	224	1.1116	1.6075	0	7	0	1.5514	5.2164
Totalnegative	224	3.0804	4.0626	0	17	2	1.5906	4.9042
Totalhard	224	6.6161	7.9191	0	34	4	1.5008	4.7732
Totalsoft	224	0.1563	0.3878	0	2	0	2.3454	7.7574
Positivehard	224	1.1027	1.6053	0	7	0	1.5665	5.2725
Positivesoft	224	0.0089	0.0943	0	1	0	10.4407	110.009
Negativehard	224	2.9330	3.9515	0	17	1.5	1.6115	5.0188
Negativesoft	224	0.1429	0.3507	0	1	0	2.0412	5.1667
Panel B: Descriptive statistics of debt maturity								
$DMAT_{LD}$	224	0.2641	0.2474	0	0.8780	0.1972	0.7512	2.5212
Panel C: Descriptive statistics of control variables								
AM	224	9.100	6.6556	2.0071	39.3761	7.2918	2.0855	8.6449
ROA	224	0.0550	0.0533	-0.0519	0.2366	0.0449	0.9750	4.3969
LEV	224	7.6940	0.2499	7.3684	8.4691	0.2099	0.4282	2.3292
LSIZE	224	0.2170	0.1452	0.0010	0.5639	7.6268	1.1952	3.8831
STATE	224	0.0577	0.1521	0	0.7601	0	3.1207	12.3624
AGE	224	16.3795	5.3256	7	27	17	-0.1253	2.1941
CF	224	0.0699	0.0626	-0.0760	0.2506	0.0615	0.5396	3.5163
GROWTH	224	0.1983	0.7159	-0.3160	5.222586	0.0557	5.4121	36.1954
ANAL	224	12.4955	8.8758	0	39	11	0.7219	2.8969

Table 5-2 (Continued)

Panel D: Frequency of control variables					
Variables	N	Frequency		Percentage	
		0	1	0	1
IND	224	160	64	71.4286%	28.5714%

Table 5-2 is the summary of the descriptive statistics of all variables. Panel A shows the descriptive statics of the CSR disclosure variables, including disclosure level, type, and nature. The CSR disclosure data was manually collected from firms' CSR, sustainability and annual reports. Panel B presents the descriptive statistics of the debt maturity, calculated as long-term debt scaled by total debt. Panel C represents the descriptive statistics of control variables, including AM, ROA, LEV, LSIZE, STATE, AGE, CF, GROWTH and ANAL. Panel D is about the frequency of a control variable, IND.

5.6.2 Correlation analysis

The Pearson correlations between variables are shown in Table 5-3. There are some relationships which are significant: for instance, debt maturity and Totalscore ($r=0.2255$, $p= 0.0007/2$); debt maturity and AM ($r= 0.5551$, $p= 0.0000/2$); AM and ROA ($r= -0.1843$, $p= 0.0057/2$); and LSIZE and STATE ($r= 0.1399$, $p= 0.0365/2$). When correlations are more than 0.7, regression analysis may have a multicollinearity problem (Tabachnick & Fidell 2007). Thus, in regression analysis the variance inflation factors (VIFs) are calculated to reexamine whether multicollinearity exists and causes problems. When VIFs are less than 3, it means no serious problems are caused by multicollinearity in regression analysis; and vice versa.

Table 5-3 Pearson Correlations between variables

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	$DMAT_{LD}$	-													.
2	Totalscore	0.23***	-												
		(0.00)													
3	Totalpositive	-0.01	0.70***	-											
		(0.92)	(0.00)												
4	Totalnegative	0.20***	0.93***	0.52***	-										
		(0.00)	(0.00)	(0.00)											
5	Totalhard	0.22***	0.99***	0.70***	0.92***	-								.	
		(0.00)	(0.00)	(0.00)	(0.00)										
6	Totalsoft	0.20***	0.34***	0.16**	0.36***	0.29***	-								
		(0.00)	(0.00)	(0.02)	(0.00)	(0.00)									
7	Positivehard	-0.00	0.70***	0.99***	0.52***	0.70***	0.14**	-							
		(0.99)	(0.00)	(0.00)	(0.00)	(0.00)	(0.04)								
8	Positivesoft	-0.10	-0.04	0.05	-0.04	-0.06	0.33***	-0.01	-						
		(0.14)	(0.56)	(0.43)	(0,58)	(0.41)	(0.00)	(0.93)							
9	Negativehard	0.18***	0.92***	0.52***	0.99***	0.92***	0.28***	0.52***	-0.05	-					
		(0.01)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.49)						
10	Negativesoft	0.24***	0.39***	0.15**	0.41***	0.35***	0.96***	0.15**	-0.10	0.33***	-				
		(0.00)	(0.00)	(0.02)	(0.00)	(0.00)	(0.00)	(0.03)	(0.15)	(0.00)					
11	AM	0.56***	0.08	-0.01	0.07	0.08	0.04	-0.01	-0.06	0.06	0.07	-			
		(0.00)	(0.21)	(0.89)	(0.33)	(0.21)	(0.53)	(0.94)	(0.38)	(0.36)	(0.32)				

Table 5-3 (Continued)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
12	ROA	-0.27***	-0.26***	-0.09	-0.28	-0.26***	-0.14**	-0.09	0.08	-0.27***	-0.17**	-0.18***	-		
		(0.00)	(0.00)	(0.19)	(0.00)	(0.00)	(0.04)	(0.17)	(0.25)	(0.00)	(0.01)	(0.01)			
13	LEV	0.53***	0.22***	0.06	0.21***	0.21***	0.14**	0.07	-0.13**	0.20**	0.19***	0.43	-0.53***	-	
		(0.00)	(0.00)	(0.35)	(0.00)	(0.00)	(0.04)	(0.29)	(0.04)	(0.00)	(0.00)	(0.00)	(0.00)		
14	LSIZE	0.07	0.19***	0.07	0.19***	0.19***	0.18***	0.07	-0,04	0.18***	0.21***	-0.05	0.12	-0.05	-
		(0.28)	(0.00)	(0.28)	(0.00)	(0.00)	(0.01)	(0.27)	(0.60)	(0.01)	(0.00)	(0.50)	(0.08)	(0.49)	
15	IND	0.11	0.18***	0.13**	0.23***	0.18***	0.10	0.14**	-0.06	0.23***	0.11	0.08	-0.21***	0.12*	-0.02
		(0.12)	(0.01)	(0.04)	(0.00)	(0.01)	(0.13)	(0.04)	(0.37)	(0.00)	(0.10)	(0.22)	(0.00)	(0.06)	(0.82)
16	STATE	0.11	0.01	-0.04	0.027	0.01	-0.03	-0.05	0.09	0.03	-0.06	0.09	-0.15**	0.11	0.14**
		(0.11)	(0.92)	(0.54)	(0.69)	(0.90)	(0.63)	(0.48)	(0.16)	(0.62)	(0.40)	(0.16)	(0.03)	(0.12)	(0.04)
17	AGE	0.01	0.01	0.12*	-0.03	0.02	-0.09	0.12*	0.06	-0.02	-0.11*	0.07	-0.00	0.10	-0.19***
		(0.87)	(0.83)	(0.08)	(0.65)	(0.77)	(0.18)	(0.09)	(0.41)	(0.76)	(0.09)	(0.29)	(0.94)	(0.12)	(0.00)
18	CF	-0.02	-0.03	0.03	-0.07	-0.03	0.00	0.02	0.09	-0.07	-0.01	-0.02	0.50***	-0.29***	0.22***
		(0.74)	(0.70)	(0.70)	(0.27)	(0.70)	(0.95)	(0.76)	(0.19)	(0.27)	(0.84)	(0.82)	(0.00)	(0.00)	(0.00)
19	GROWTH	-0.14**	-0.16**	-0.07	-0.17**	-0.15**	-0.10	-0.07	-0.02	-0.16**	-0.09	-0.05	0.33***	-0.12*	0.08
		(0.04)	(0.02)	(0.27)	(0.01)	(0.02)	(0.15)	(0.28)	(0.79)	(0.01)	(0.16)	(0.45)	(0.00)	(0.08)	(0.24)
20	ANAL	-0.25***	-0.06	0.01	-0.07	-0.06	-0.00	0.02	-0.06	-0.07	0.02	-0.16**	0.48***	-0.28***	0.27***
		(0.00)	(0.40)	(0.85)	(0.30)	(0.40)	(0.98)	(0.81)	(0.38)	(0.28)	(0.73)	(0.02)	(0.00)	(0.00)	(0.00)
		1	2	3	4	5	6	7	8	9	10	11	12	13	14

Table 5-3 (Continued)

		15	16	17	18	19
16	STATE	-0.05	-			
		(0.46)				
17	AGE	-0.04	0.07	-		
		(0.54)	(0.33)			
18	CF	-0.12*	-0.08	0.07	-	
		(0.07)	(0.25)	(0.31)		
19	GROWTH	-0.20***	0.07	-0.01	0.10	
		(0.00)	(0.28)	(0.937)	(0.15)	
20	ANAL	-0.20***	-0.28***	-0.127*	0.39***	0.05
		(0.00)	(0.00)	(0.07)	(0.00)	(0.45)
		15	16	17	18	19

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed)

5.6.3 Regression analysis

Table 5-4 presents the results of regression analysis, which includes the level of CSR (Totalscore) disclosure as the independent variable. Under Hypothesis 1, I expected a positive relationship between the level of CSR disclosure and debt maturity. However, the results show that the relationship between Totalscore and debt maturity is not significant, which does not support my first hypothesis. This finding is consistent with Gong et al. (2016), who report no significant difference in bond maturity between high quality and low quality CSR disclosing firms.

Table 5-4 Regression model with impact of CSR information level on debt maturity

Variables	Information level
(Intercept)	-0.7009*
	(0.099)
Totalscore	0.0029*
	(0.085)
AM	0.0141***
	(0.000)
ROA	0.3339
	(0.351)
LEV	0.6238***
	(0.000)
LSIZE	0.0988*
	(0.069)
IND	-0.0103
	(0.732)
STATE	-0.0053
	(0.948)
AGE	-0.0032
	(0.187)
CF	0.4903*
	(0.055)
GROWTH	-0.0355*
	(0.072)
ANAL	-0.0055***
	(0.002)
Adj.R^2	44.35%
F	17.16
N	224

The dependent variable is Debt Maturity calculated as long-term debt, scaled by total debt. All

variables are defined in Chapter 5.5.2. Debt Maturity is measured by long-term debt scaled to total debt. Totalscore is the total score obtained from the CSR disclosure index in Appendix A. AM is asset maturity computed as the weighted average of the maturity of long-term and current assets. The maturity of long-term assets is gross property, plant and equipment divided by depreciation expenses and the maturity of current assets is current assets scaled by the cost of goods sold. ROA is the ratio of net income to the total assets at the beginning of 2015. MTB is the market value of equity divided by the book value of equity at the end of 2015. LEV is the total debt scaled by the book value of the total assets in the same year. The total debt is the sum of long-term debt and debt in current liabilities. LSIZE is calculated as the natural log of a firm's market value of equity at the end of 2015. IND is the industry indicator, 0= lower profile and 1= higher profile. STATE is the ratio of state-owned shares to total shares. AGE is the number of years from the firm is established till 2015. CF is the ratio of cash flow from operation to total assets. GROWTH is sales revenues in year t minus sales revenues in year t-1 scaled by sales revenue in year t-1. ANAL is the number group of financial analysts following each firm at the end of 2015.

Numbers in parentheses are t-statistics and significance levels are denoted based on two-tailed tests.

* Significant at the 0.10 level

** Significant at the 0.05 level

*** Significant at the 0.01 level

Table 5-5 model 1 and 2 build on the specification in Table 5-4 and substitutes Totalpositive, Totalnegative, Totalhard and Totalsoft for Totalscore to examine Hypothesis 2 and Hypothesis 3. Table 5-5 Model 1 presents the results of Hypothesis 2, which predicts a negative association between positive information and debt maturity and a positive association between negative information and debt maturity. The results support this hypothesis. To sum up, the results in Table 5-5 suggest that CSR disclosure has different significant influences on debt maturity by information nature.

Similar to Table 5-5 model 1, Table 5-5 model 2 also builds on the specification in Table 5-4 and substitutes disclosure scores based on the type of the disclosures, Totalhard and Totalsoft. This substitution enables the testing of the association between CSR disclosure type and debt maturity. Model 2 tests Hypothesis 3, which predicts that CSR disclosure is positively related to debt maturity, regardless of the type of disclosure. However, the results only document a positive relationship between soft disclosure and debt maturity (β= 0.0642, p= 0.042/2) and no significant relationship between hard disclosure and debt maturity, which is partially support the Hypothesis 3. To summarize, in Table 5-5 model 2 the findings suggest that a firm providing more soft information tends to have longer debt maturity, while disclosing more hard information does not help a firm to access long-term debt. These results imply that soft disclosure significantly affects a firm's perceived risks, which is consistent with Liberti and Peterson (2019) and Dorfleitner et al. (2016) that soft disclosure is informative and particularly important when market is highly opaque.

Table 5-5 Regression model with impact of CSR information nature on debt maturity

Variables	Information nature	Information type
	Model 1	Model 2
(Intercept)	-0.7198*	-0.6161
	(0.091)	(0.153)
Totalpositive	-0.0144*	
	(0.083)	
Totalnegative	0.0077**	
	(0.043)	
Totalhard		0.0020
		(0.194)
Totalsoft		0.0642**
		(0.042)
AM	0.0140***	0.0141***
	(0.000)	(0.000)
ROA	0.3112	0.3574
	(0.383)	(0.318)
	(Continued on next page)	

Table 5-5 (Continued)

Variables	Information nature	Information type
	Model 1	Model 2
LEV	0.6236***	0.6102***
	(0.000)	(0.000)
LSIZE	0.1009*	0.0868
	(0.064)	(0.116)
IND	-0.0093	-0.0115
	(0.757)	(0.698)
STATE	-0.0053	0.0155
	(0.947)	(0.850)
AGE	-0.025	-0.0029
	(0.328)	(0.249)
CF	0.5244**	0.4725*
	(0.040)	(0.063)
GROWTH	-0.0351*	-0.0344*
	(0.077)	(0.082)
ANAL	-0.0054***	-0.0055***
	(0.003)	(0.002)
Adj.R^2	44.49%	44.92%
F-statistic	15.89	16.16
N	224	224

The dependent variable is Debt Maturity, calculated as long-term debt scaled by total debt. All variables are defined in Chapter 5.5.2. Debt Maturity is measured as long-term debt scaled by total debt. Totalpositive(Totalnegative, Totalhard, Totalsoft) is the total score of positive/negative/hard/soft items disclosed in CSR and annual reports, obtained from the CSR disclosure index in Appendix A. AM is asset maturity computed as the weighted average of the maturity of long-term and current assets. The maturity of long-term assets is gross property, plant and equipment divided by depreciation expenses and the maturity of current assets is current assets scaled by the cost of goods sold. ROA is the ratio of net income to the total assets at the beginning of 2015. LEV is the total debt scaled by the book value of the total assets in this year. The total debt is the sum of long-term debt and debt in current liabilities. LSIZE is calculated as the natural log of firm's market value of equity at the end of year 2015. IND is the industry indicator, 0= lower profile and 1= higher profile. STATE is the ratio of shares owned by government to total shares. AGE is the number of years from the firm is established till 2015. CF is the ratio of cash flow from operation to total assets. GROWTH is sales revenues in year t minus sales revenues in year t-1 scaled by sales revenue in year t-1. ANAL is the number group of financial analysts following each firm at the end of 2015.

Numbers in parentheses are t-statistics and significance levels are denoted based on two-tailed tests.

* Significant at the 0.10 level

** Significant at the 0.05 level

*** Significant at the 0.01 level

Table 5-6 presents the results of Hypotheses 4A, 4B, 4C and 4D, which predict the relationships between the combinations of the CSR disclosure nature, type and debt maturity. The results showed a negative relationship between positive soft CSR information and debt maturity (β= -0.1843, p= 0.004/2) and a positive relationship between negative soft CSR information and debt maturity (β= 0.0976, p= 0.005/2). Differing from my prediction, both positive hard CSR information and negative hard CSR information have no impact on debt maturity which is inconsistent with Hypotheses 4A and 4C. The results mean that firms having more soft CSR disclosure regardless information nature tend to have longer debt maturity which indicates soft information has strong signalling effect to enhance firm's credibility among lenders. As a result, it may help firms to enhance lenders' responses towards positive and negative information. To summarise, positive soft and negative soft information have significant impact on debt maturity, suggesting that lenders are careful about information nature conditionally on soft information.

Table 5-6: Debt maturity regression model with the combined impact of CSR information nature and type on debt maturity

Variables	Information combinations
(Intercept)	-0.5735
	(0.187)
Positivehard	-0.0122
	(0.150)
Positivesoft	-0.1843***
	(0.004)

(Continued on next page)

Table 5-6 (Continued)

Variables	Information combinations
Negativehard	0.0044
	(0.234)
Negativesoft	0.0976***
	(0.005)
AM	0.0139***
	(0.000)
ROA	0.3745
	(0.291)
LEV	0.5836***
	(0.000)
LSIZE	0.0815
	(0.142)
IND	-0.0116
	(0.696)
STATE	0.0285
	(0.727)
AGE	-0.0019
	(0.463)
CF	0.5194**
	(0.043)
GROWTH	-0.0365*
	(0.066)
ANAL	-0.0058***
	(0.001)
Adj.R^2	45.51%
F-statistic	14.30
N	224

The dependent variables are debt maturity calculated as long-term debt, scaled by total debt. Dependent and control variables are defined in sections 5.5.2.1 and 5.5.2.3. Independent variables are defined in section 5.5.2.2. Positivehard (positivesoft, negativehard, negativesoft) is the total score of positive/hard (positive/soft, negative/hard, negative/soft) items disclosed in the CSR and the annual report, obtained from the CSR disclosure index in Appendix A. AM is asset maturity computed as the weighted average of the maturity of long-term and current assets. The maturity of the long-term assets is gross property, plant and equipment, divided by depreciation expenses. The maturity of current assets is current assets scaled by the cost of goods sold. ROA is the ratio of net income to the total assets at the beginning of 2015. LEV is the total debt scaled by the book value of the total assets in 2015. The total debt is the sum of long-term debt and debt in current liabilities. LSIZE is calculated as the natural log of the firm's market value of the equity at the end of 2015. IND is the industry indicator, 0 = lower profile and 1 = higher profile. STATE is the ratio of shares owned by government to total shares. AGE is the number of years from the firm is established till 2015. CF is the ratio of cash flow from operation to total assets. GROWTH is sales revenues in year t minus sales revenues in year t-1 scaled by sales revenue in year t-1. ANAL is the number group of financial analysts following each firm at the end of 2015.

Numbers in parentheses are t-statistics and significance levels are denoted based on two-tailed tests.

* Significant at the 0.10 level.

** Significant at the 0.05 level.

*** Significant at the 0.01 level.

Across all regression models, some control variables have a significant impact on debt maturity, including AM, LEV, CF, Growth and ANAL. AM is positively related to debt maturity, which is consistent with the maturity matching hypothesis. As expected, LEV, LSIZE and CF are positively related to debt maturity which indicate firms having high leverage level, bigger size and more cash flows are likely to have longer debt maturity. In addition, Growth is negatively related to debt maturity confirming the expectation that lenders tend to provide short-term debt to mitigate the underinvestment problem. Finally, contrary to the argument of the analyst's monitoring function, ANAL is negatively associated with debt maturity. Bowen et al.

(2008) suggests that the information acquisition by financial analysts brings more benefit to informed investors than uninformed investors which leads to an increase in information asymmetry among investors. Consequently, it may reduce debt maturity.

5.6.4 Additional analyses

5.6.4.1 Alternative debt maturity proxy

Debt maturity, $DMAT_{Shyu}$, is employed to test the robustness of main findings. It is measured as the ratio of short-term debt to total debt in period t (Ruan et al., 2014). Short-term debt refers to debt matures within one year including borrowing from banks and other financial institutions. The results of regression models are mainly consistent with key findings in main tests[22].

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[22]The insignificant estimate of Totalscore, Totalpositive and Positivehard may be due to the fact that $DMAT_{Ruan}$ only reflects financial institutions' perceptions toward CSR information.

Table 5-7 Regression models with impact of CSR information on DMAT$_{Ruan}$

Variables	Information level	Information nature	Information type	Information combinations
	Model1	Model 2	Model3	Model 4
(Intercept)	1.5426**	1.5372**	1.4048*	1.4525*
	(0.048)	(0.050)	(0.074)	(0.071)
Totalscore	-0.0037			
	(0.198)			
Totalpositive		0.0221		
		(0.154)		
Totalnegative		-0.0118*		
		(0.069)		
Totalhard			-0.0024	
			(0.406)	
Totalsoft			-0.1016**	
			(0.018)	
Positivehard				0.02233
				(0.143)
Positivesoft				-0.2345
				(0.275)
Negativehard				-0.0091
				(0.146)
Negativesoft				-0.0953*
				(0.063)

Table 5-7 (Continued)

Variables	Information level	Information nature	Information type	Information combinations
	Model1	Model 2	Model3	Model 4
AM	-0.0098***	-0.0096***	-0.0098***	-0.0097***
	(0.002)	(0.002)	(0.002)	(0.001)
ROA	-0.0502	0.0402	-0.0895	-0.0478
	(0.941)	(0.952)	(0.895)	(0.943)
LEV	-0.0472	-0.0429	-0.0252	-0.0380
	(0.808)	(0.825)	(0.896)	(0.845)
LSIZE	-0.1397	-0.1380	-0.1201	-0.1254
	(0.152)	(0.157)	(0.222)	(0.210)
IND	0.0068	0.0067	0.0089	0.0037
	(0.889)	(0.891)	(0.855)	(0.940)
STATE	-0.0295	-0.0153	-0.0459	-0.0185
	(0.833)	(0.912)	(0.737)	(0.890)
AGE	0.0079*	0.0068	0.0073	0.0065
	(0.077)	(0.137)	(0.104)	(0.161)
CF	-1.2128***	-1.2573***	-1.1838**	-1.2063***
	(0.010)	(0.007)	(0.012)	(0.010)
GROWTH	0.0316*	0.0305	0.0298	0.0279
	(0.403)	(0.422)	(0.434)	(0.470)
ANAL	0.0046	0.0045	0.0046	0.0042
	(0.153)	(0.167)	(0.158)	(0.202)
Adj.R^2	8.15%	8.47%	8.85%	8.93%
F-statistic	2.80	2.72	2.80	2.56
N	224	224	224	224

All variables are defined in Chapter 5.5.2. Debt Maturity is measured by short-term debt scaled to total assets (Ruan et al. 2014). Totalscore (Totalpositive, Totalnegative, Totalhard, Totalsoft, Positivehard, Positivesoft, Negativehard, Negativesoft) is the total score of positive/negative/hard/soft items and their combinations disclosed in CSR and annual reports, obtained from the CSR disclosure index in Appendix A. AM is asset maturity computed as the weighted average of the maturity of long-term and current assets. The maturity of long-term assets is gross property, plant and equipment divided by depreciation expenses and the maturity of current assets is current assets scaled by the cost of goods sold. ROA is the ratio of net income to the total assets at the beginning of 2015. LEV is the total debt scaled by the book value of the total assets in the same year. The total debt is the sum of long-term debt and debt in current liabilities. LSIZE is calculated as the natural log of a firm's market value of equity at the end of 2015. IND is the industry indicator, 0= lower profile and 1= higher profile. STATE is the ratio of state-owned shares to total shares. AGE is the number of years from the firm is established till 2015. CF is the ratio of cash flow from operation to total assets. GROWTH is sales revenues in year t minus sales revenues in year t-1 scaled by sales revenue in year t-1. ANAL is the number group of financial analysts following each firm at the end of 2015.

Numbers in parentheses are t-statistics and significance levels are denoted based on two-tailed tests.

* Significant at the 0.10 level

** Significant at the 0.05 level

*** Significant at the 0.01 level

5.6.4.2 Two alternative CSR disclosure proxies

As discussed in section 4.4.2.2, CSR disclosure ratio and CSR disclosure rank are employed as two proxies of CSR disclosure. Apart from Totalscore in CSR disclosure rank, the estimates of key variables in these two alternative regression models are consistent with these in main tests.

Table 5-8 Regression models with two alternative measures for CSR disclosure

Variable	CSR disclosure ratio				CSR disclosure rank			
	Information level	Information nature	Information type	Information combinations	Information level	Information nature	Information type	Information combinations
	Model1	Model 2	Model3	Model 4	Model1	Model 2	Model3	Model 4
(Intercept)	-0.7009*	-0.7195*	-0.5989	-0.5734	-0.6174	-0.6958	-0.3626	-0.7678
	(0.099)	(0.092)	(0.165)	(0.188)	(0.163)	(0.119)	(0.443)	(0.107)
Totalscore	0.6604*				-0.0029			
	(0.085)				(0.107)			
Totalpositive		-3.2677*				0.0144*		
		(0.086)				(0.083)		
Totalnegative		1.7734**				-0.0077**		
		(0.046)				(0.043)		
Totalhard			0.3539				-0.0020	
			(0.239)				(0.233)	
Totalsoft			2.876**				-0.0650**	
			(0.023)				(0.040)	
Positivehard				-2.2769				0.0120
				(0.157)				(0.154)
Positivesoft				-7.0157***				0.1844***
				(0.004)				(0.004)
Negativehard				0.8364				-0.0044
				(0.251)				(0.242)

Table 5-8 (Continued)

Variable	CSR disclosure ratio				CSR disclosure rank			
	Information level	Information nature	Information type	Information combinations	Information level	Information nature	Information type	Information combinations
	Model1	Model 2	Model3	Model 4	Model1	Model 2	Model3	Model 4
Negativesoft				3.7242***				-0.0978***
				(0.005)				(0.005)
AM	0.0141***	0.0140***	0.0141***	0.0139***	0.0141***	0.0140***	0.0141***	0.0139***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
ROA	0.3339	0.3131	0.3774	0.3763	0.3332	0.3112	0.3567	0.3755
	(0.351)	(0.380)	(0.290)	(0.289)	(0.352)	(0.383)	(0.319)	(0.290)
LEV	0.6238***	0.6238***	0.6078***	0.5837***	0.6247***	0.6236***	0.6107***	0.5836***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
LSIZE	0.0988*	0.1009*	0.0845	0.0815	0.0997*	0.1009*	0.0873	0.0815
	(0.069)	(0.064)	(0.125)	(0.143)	(0.067)	(0.064)	(0.114)	(0.143)
IND	-0.0103	-0.0093	-0.0111	-0.0116	-0.0100	-0.0093	-0.0113	-0.0166
	(0.732)	(0.757)	(0.707)	(0.697)	(0.739)	(0.757)	(0.703)	(0.696)
STATE	0.0053	-0.0054	0.0161	0.0286	-0.0048	-0.0053	0.0152	0.0285
	(0.948)	(0.947)	(0.845)	(0.726)	(0.954)	(0.947)	(0.853)	(0.726)
AGE	-0.0032	-0.0025	-0.0028	-0.0019	-0.0032	-0.0025	-0.0029	-0.0019
	(0.187)	(0.325)	(0.261)	(0.459)	(0.186)	(0.328)	(0.249)	(0.461)
CF	0.4903*	0.5235**	0.4751*	0.5184**	0.4907*	0.5243**	0.4725*	0.5189**
	(0.055)	(0.040)	(0.061)	(0.043)	(0.054)	(0.040)	(0.063)	(0.043)

Table 5-8 (Continued)

Variable	CSR disclosure ratio				CSR disclosure rank			
	Information level	Information nature	Information type	Information combinations	Information level	Information nature	Information type	Information combinations
	Model1	Model 2	Model3	Model 4	Model1	Model 2	Model3	Model 4
GROWTH	-0.0355*	-0.0351*	-0.0350*	-0.0366*	-0.0355*	-0.0351*	-0.0344*	-0.0365*
	(0.072)	(0.077)	(0.077)	(0.065)	(0.072)	(0.077)	(0.082)	(0.066)
ANAL	-0.0055***	-0.0054***	-0.0056***	-0.00589***	-0.0055***	-0.0054***	-0.0055***	-0.0058***
	(0.002)	(0.002)	(0.002)	(0.001)	(0.002)	(0.003)	(0.002)	(0.001)
Adj. R^2	44.35%	44.47%	45.03%	45.49%	44.27%	44.49%	44.87%	45.50%
F statistic	17.16	15.88	16.22	14.29	17.10	15.89	16.13	14.30
N	224	224	224	224	224	224	224	224

All variables are defined in Chapter 5.5.2. Debt Maturity is measured by long-term debt scaled to total debt. In the CSR disclosure ratio model, Totalscore (positive, negative, hard, soft, positivehard, positivesoft, negativehard, negativesoft) is the total score (of positive, negative, hard, soft positive/hard, positive/soft, negative/hard, negative/soft) items disclosed in the CSR and the annual report, scaled by the maximum number of applicable disclosure items for firm that could have been disclosed. In the CSR disclosure rank model, Totalscore (positive, negative, hard, soft, positivehard, positivesoft, negativehard, negativesoft) is the rank of the total score (of positive, negative, hard, soft positive/hard, positive/soft, negative/hard, negative/soft) items disclosed in the CSR and the annual report The more CSR information disclosed means the higher rank, for instance, rank 1 refers to the report which provides the most information. These data is obtained from the CSR disclosure index in Appendix A. The instrumental variables include the variables of industry average quality of CSR disclosure and subsidies. AM is asset maturity computed as the weighted average of the maturity of long-term and current assets. The maturity of long-term assets is gross property, plant and equipment divided by depreciation expenses and the maturity of current assets is

current assets scaled by the cost of goods sold. ROA is the ratio of net income to the total assets at the beginning of 2015. LEV is the total debt scaled by the book value of the total assets in the same year. The total debt is the sum of long-term debt and debt in current liabilities. LSIZE is calculated as the natural log of a firm's market value of equity at the end of 2015. IND is the industry indicator, 0= lower profile and 1= higher profile. STATE is the ratio of state-owned shares to total shares. AGE is the number of years from the firm is established till 2015. CF is the ratio of cash flow from operation to total assets. GROWTH is sales revenues in year t minus sales revenues in year t-1 scaled by sales revenue in year t-1. ANAL is the number group of financial analysts following each firm at the end of 2015.

Numbers in parentheses are t-statistics and significance levels are denoted based on two-tailed tests.

* Significant at the 0.10 level

** Significant at the 0.05 level

*** Significant at the 0.01 level

5.6.4.3 Reclassification of energy and utility firms

Since some energy and utility firms use unsustainable resources (i.e. fossil fuels) to generate electrical energy, the public are concerned about their negative impact on the environment, so these types of business are re-classified as high profile industry in this thesis. After performing the main regressions, all results were found to be consistent with the above key findings listed in Table 5-4, 5-5 and 5-6, except for the relationship between Totalscore and $DMAT_{LD\,i,t}$ which is not significant[23].

5.6.4.4 Endogeneity

The employed instrumental variables include the industry average of CSR disclosure (TotalscoreIA, TotalpositiveIA, TotalnegativeIA, TotalhardIA, TotalsoftIA) and government subsidies (Subsidies) (for more details, see section 4.4.2.3). In the first stage, I regress CSR disclosure on Subsidies, the industry average of CSR disclosure, and other exogenous variables. Due to the lack of state subsidies data, the sample size is reduced to 221. Table 5-9 shows the two-stage regression results. The first stage regression documents the generally significant relationships between instrumental variables and CSR disclosure, while the second stage regression shows the same findings as the main tests. Across all models, the results of Hansen J statistics are insignificant suggesting that instrumental variables meet the over-identifying restrictions. The results of Anderson-Rubin F tests reject the null hypothesis, which means the endogenous regressors are irrelevant, indicating that the adopted instrumental variables are not weak. The results of Hausman tests are insignificant, which after employing the various instruments, suggests that all variables are exogenous. The results of the above three tests provide evidence that the instrumental variables employed are valid. Overall, these findings suggest that my results are robust in relation to the instrumental variable approach.

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[23] In Table 5-4, the coefficient of DMAT is marginally significant (β= 0.0029, p= 0.085/2). In the reclassification industry model, the coefficient of DMAT is (β= 0.0025, p= 0.140/2).

Table 5-9 Regression models controlling for Endogeneity

Variables	Information level model		Information nature model			Information type model		
	2nd stage	1st stage	2nd stage	1st stage		2nd stage	1st stage	
	$DMTA_{LT}$	Totalscore	$DMTA_{LT}$	Totalpositive	Totalnegative	$DMAT_{LT}$	Totalhard	Totalsoft
(Intercept)	0.0163	-9.7393	0.6144	1.1457	-6.9519	0.2711	-11.2616	-0.0659
	(0.976)	(0.605)	(0.469)	(0.777)	(0.477)	(0.701)	(0.553)	(0.946)
Totalscore	0.01838***							
	(0.001)							
Totalpositive			-0.1189**					
			(0.029)					
Totalnegative			0.0810***					
			(0.003)					
Totalhard						-0.0027		
						(0.784)		
Totalsoft						0.6173***		
						(0.007)		
AM	0.0141***	-0.0555	0.0136***	-0.01226	-0.0214	0.0141***	-0.0388	-0.0044
	(0.000)	(0.493)	(0.001)	(0.478)	(0.607)	(0.000)	(0.640)	(0.305)
ROA	0.9119**	-30.7639**	1.2161*	-0.2228	-14.4350**	0.5944	--30.3728**	-0.4262
	(0.038)	(0.022)	(0.062)	(0.939)	(0.041)	(0.291)	(0.024)	(0.534)
LEV	0.5230***	2.0750	0.4502**	0.6107	1.1830	0.4754***	1.5769	0.2352
	(0.000)	(0.635)	(0.017)	(0.523)	(0.608)	(0.005)	(0.719)	(0.297)
LSIZE	-0.0053	1.3847	-0.0965	-0.2586	1.0200	0.0141	1.5542	0.0241
	(0.942)	(0.573)	(0.403)	(0.623)	(0.423)	(0.658)	(0.530)	(0.850)

Table 5-9 (Continued)

Variables	Information level model		Information nature model			Information type model		
	2nd stage	1st stage	2nd stage	1st stage		2nd stage	1st stage	
	$DMTA_{LT}$	Totalscore	$DMTA_{LT}$	Totalpositive	Totalnegative	$DMAT_{LT}$	Totalhard	Totalsoft
IND	-0.0520	1.1923	-0.0800	0.3669	0.8961	-0.0361	1.3437	-0.0006
	(0.140)	(0.311)	(0.141)	(0.163)	(0.158)	(0.419)	(0.261)	(0.993)
STATE	0.0600	-2.7566	0.0067	0.1086	-0.6249	0.1264	-2.3080	-0.2353
	(0.546)	(0.403)	(0.961)	(0.880)	(0.719)	(0.325)	(0.484)	(0.166)
AGE	-0.0040	0.0730	0.0021	0.0425**	0.0076	0.0009	0.0740	-0.0047
	(0.152)	(0.434)	(0.642)	(0.0.34)	(0.874)	(0.812)	(0.428)	(0.324)
CF	0.2464	6.8139	0.4188	1.5922	1.2773	0.1996	6.0863	0.3661
	(0.386)	(0.466)	(0.284)	(0.425)	(0.791)	(0.579)	(0.514)	(0.445)
GROWTH	-0.0250	-0.2395	-0.0102	-0.0810	-0.2233	-0.0204	-0.2488	-0.0103
	(0.256)	(0.744)	(0.747)	(0.610)	(0.561)	(0.463)	(0.734)	(0.783)
ANAL	-0.0052***	0.01400	-0.0044	-0.0033	0.0041	-0.0042	0.0160	-0.0014
	(0.010)	(0.837)	(0.121)	(0.823)	(0.909)	(0.108)	(0.814)	(0.683)
Instrument Variables								
Subsidies		4.05e-09***		8.18e-10***	1.82e-09***		3.90e-09***	1.75e-10***
		(0.001)		(0.001)	(0.003)		(0.001)	(0.004)
TotalscoreIA		0.6579***						
		(0.001)						
TotalpositiveIA				1.2298***	0.3898			
				(0.000)	(0.604)			
TotalnegativeIA				-0.1652	0.4973*			
				(0.154)	(0.077)			

Table 5-9 (Continued)

Variables	Information level model		Information nature model			Information type model		
	2nd stage	1st stage	2nd stage	1st stage		2nd stage	1st stage	
	$DMTA_{LT}$	Totalscore	$DMTA_{LT}$	Totalpositive	Totalnegative	$DMAT_{LT}$	Totalhard	Totalsoft
TotalhardIA							0.7795***	-0.0113
							(0.005)	(0.425)
TotalsoftIA							-4.5597	1.0099***
							(0.534)	(0.008)
Hansen J statistic	0.083		0.358			0.645		
(p-value)	(0.7739)		(0.5498)			(0.4219)		
Anderson-Rubin F test	7.96***		8.70***			10.63		
(p-value)	(0.0005)		(0.0000)			(0.0000)		
Hausman test	9.36		7.58			9.51		
(p-value)	(0.5888)		(0.8168)			(0.6586)		
N	221		221			221		

All variables are defined in Chapter 5.5.2. Debt Maturity is measured by long-term debt scaled to total debt. Totalscore (Totalpositive, Totalnegative, Totalhard, Totalsoft) is the total score of positive/negative/hard/soft items disclosed in CSR and annual reports, obtained from the CSR disclosure index in Appendix A. The instrumental variables include the variables of industry average quality of CSR disclosure and subsidies. The industry average quality of CSR disclosure is measured by TotalscoreIA, TotalpositiveIA, TotalnegativeIA, TotalhardIA, and TotalsoftIA. Subsidies refer Chinese state subsidies which is ratio of state subsidies to total assets. AM is asset maturity computed as the weighted average of the maturity of long-term and current assets. The maturity of long-term assets is gross property, plant and equipment divided by depreciation expenses and the maturity of current assets is current assets scaled by the cost of goods sold. ROA is the ratio of net income to the total assets at the beginning of 2015. LEV is the total debt scaled by the book value of the total assets in the same year. The total debt is the sum of long-term debt and debt in current liabilities. LSIZE

is calculated as the natural log of a firm's market value of equity at the end of 2015. IND is the industry indicator, 0= lower profile and 1= higher profile. STATE is the ratio of state-owned shares to total shares. AGE is the number of years from the firm is established till 2015. CF is the ratio of cash flow from operation to total assets. GROWTH is sales revenues in year t minus sales revenues in year t-1 scaled by sales revenue in year t-1. ANAL is the number group of financial analysts following each firm at the end of 2015. The instrumental variables include the industry average quality of CSR disclosure which are recorded as TotalscoreIA, TotalpositiveIA, TotalnegativeIA, TotalhardIA, and TotalsoftIA and Subsidies which refer state subsidies and is calculated as the ratio of state subsidies to total assets.

Numbers in parentheses are t-statistics and significance levels are denoted based on two-tailed tests.

* Significant at the 0.10 level

** Significant at the 0.05 level

*** Significant at the 0.01 level

5.7 Conclusion

This study has investigated how CSR disclosure influences debt maturity to reveal the relationship between nonfinancial disclosure and non-pricing contracting terms. In line with Dhliawal et al. (2011), Clarkson et al. (2013) and Chen and Ghysels (2011) this investigation has evaluated the quality of CSR disclosure in various dimensions namely, disclosure level, disclosure nature (positive/ negative), disclosure type (hard/soft), and combination of disclosure nature and type (positivehard/ positivesoft/ negativehard/ negativesoft), which has provided more precise measurements. This study focuses on the Chinese market and investigated firms listed on CSR 300 in the year 2015.

The findings show that the overall level of CSR information has a positive impact on debt maturity, which is consistent with Dahliwal et al. (2011) and Gao et al. (2015). This relationship suggests that comparing with firms with less CSR information, firms disclosing more CSR information tend to have lower information asymmetry resulting in longer debt maturity. After decomposing the quality of CSR disclosure into different dimensions, this study further investigated each aspect of the disclosure and their influence, and found a negative relationship between positive CSR disclosure and debt maturity, positive relationship between negative CSR disclosure. These findings indicate that disclosure affects lenders' perception towards firm risk differently by information nature which is consistent with Chen and Ghysels (2011), Ho et al. (2018) and Soroka (2006). Meanwhile, soft CSR disclosure is positively associated with debt maturity showing a strong signaling effect of soft disclosure on lenders. After further classification by information, it can be seen that positive and soft CSR disclosure negatively affects debt maturity, while negative and soft CSR disclosure has positive impact on debt maturity. These results suggest that soft information regardless information nature is informative and particularly important to lenders in a highly opaque market, supporting the argument of Liberti and Peterson (2019) and Dorfleitner et al. (2016). Therefore, it can be concluded that the impact of CSR disclosure on lenders' perceptions of firm risk varies by disclosure level, nature

and type. Accordingly, lenders use debt maturity, a form of non-pricing debt contracting terms, to protect their own interests.

These findings have a number of implications. First, this study indicates how lenders assess firms' risks through nonfinancial disclosure, suggesting that, in a highly financial opaque market, lenders may use CSR disclosure as an additional information source to assess firm risk. Furthermore, it shows that information components have different impacts on lenders' perceptions. In this study, CSR disclosure classified by information nature and type had different impacts on perceived risks and the need to use various proxies to assess CSR reports. Findings show that the different impacts of information nature on debt maturity suggesting information nature affects perceived firm risk. Meanwhile, consistent with Brockman and Cicon (2013) and Agarwal and Ben-David (2018), soft information is incremental informative and particularly helpful to reduce the default rates of approved loans when firms are in a highly opaque financial market (Agarwal & Ben-David, 2018). Therefore, not only hard information but also soft information should be considered in credit assessment in the loan approval process.

Second, this study reveals the complex interactions between information nature and type and how they jointly affect lenders' perceptions. The findings show lenders tend to care more about positive or negative information when it is in soft form, suggesting soft information has different effects on debt maturity when information nature is different. These findings highlight the benefits of decomposing disclosure into more precise measures which provides us a more comprehensive understanding about the disclosure and its impact on perceived firm risk.

Third, this study shows how Chinese lenders price firm risk using non-pricing contracting terms. As suggested by Chen and Zhu (2013), in China banks play a dominant role in debt financing and firms rely heavily on bank loans, which is very different from the lending environment in the U.S. market. Interest rates are strictly

controlled by the government and lenders cannot adjust interest rates to price firm risk (for more details, see section 3.4.2.2), therefore Chinese lenders tend to use debt contracting terms and debt maturity, to mitigate the risks they bear.

There are some limitations to this research. Firstly, this study adopts the GRI framework as a base and uses the items presented in Hummel and Schlick (2016) to build a CSR disclosure index. This index is standardized worldwide which does not include some items which show the uniqueness of Chinese firms, since CSR concerns and emphases in China are different to other countries. Secondly, this study only investigates major firms listed in the CSI index; most of which are state-own firms, and the observation period is one year. Thus, these findings may not be applied to small, or medium-sized firms which can be further investigated in the future studies.

Chapter 6 Summary and Conclusion

6.1 Introduction

This thesis investigates how CSR disclosure influences the perceptions of shareholders and lenders when they are reflecting on the cost of equity and debt maturity in the Chinese context. It contains two independent yet connected empirical studies. The first study focuses on the impact of CSR disclosure on the cost of equity, while the second study examines the impact of CSR disclosure on debt maturity. This chapter briefly summaries the findings of the two studies and points out the contributions, implications and limitations of the present thesis, as well as indicating a future research direction.

6.2 Findings

The findings of the two empirical studies (see Appendix C for more details) are summarised as follows. First, shareholders tend to be risk averse and consider the increase of CSR disclosure leads to the reduction of firm risk. In respect of information nature, shareholders take negative information signals to mean an increase in firm risk and positive information as a sign of risk reduction and respond accordingly. Meanwhile, shareholders are very sensitive to the signalling effect of soft information but do not care so much about hard information. Interestingly, all combinations of information nature have a significant impact on the cost of equity. Shareholders tend to require a higher cost of equity when firms have negative CSR information in hard and soft forms and require a lower cost of equity when firms have positive CSR information regardless information type. These findings support the argument of Plumlee et al (2015) that shareholders respond to information variously, by the nature and type of information and their combinations.

Second, like shareholders, lenders believe that an increase in CSR disclosure leads to a decrease in firm risk resulting in longer debt maturity. Meanwhile, lenders tend to be sensitive to information nature and respond to positive and negative information differently. However, unlike shareholders, lenders interpret positive CSR information

in an unfavourable way that a firm intends to encroach on their interests, while they regard disclosing negative CSR information as honest behaviour. Therefore, they are likely to shorten debt maturity in response to positive information but provide longer debt maturity to firms reporting negative information. Moreover, regarding information type, lenders are only sensitive to soft information and due to its strong signalling effect, lenders respond to both positive and negative information in soft form. These findings are consistent with Liberti and Peterson (2019) and Agarwal and Ben-David (2018), who found that soft information provides valuable information to lenders, thus improving the quality of the loan.

To sum up, the findings of this thesis suggest that CSR disclosure is incrementally informative, which is valuable to investors when it comes to making better estimations of firm risk. Both shareholders and lenders tend to be sensitive to positive, negative and soft information but the same disclosure tends to have different impacts on the perceptions of shareholders and lenders. The impact of the soft information depends on the nature of information. These findings provide additional evidences supporting the argument of Agarwal and Ben-David (2018), Clarkson et al. (2013), Dhaliwal et al. (2014) and Plumlee et al. (2015).

6.3 Contributions and Implications

This section provides detailed discussion about the contributions and implications of this thesis. .

6.3.1 Contributions

First, this thesis deepens our understanding of agency theory by comparing the responses of shareholders and lenders towards the same CSR information. It shows that shareholders and lenders respond to the same information differently reflecting on the cost of equity and debt maturity, suggesting that shareholders and lenders perceive the same information differently. These differences are due to different types of agency problem, and the payoffs that shareholders and lenders experience;

furthermore, the differences are well explained by agency theory.

Second, this thesis extends the current non-financial disclosure literature by investigating the relationship between CSR disclosure (a type of non-financial disclosure), and investors' perceptions about a firm's performance and risk, at both aggregate and disaggregate levels. Overall, it provides additional evidence to support the argument of Clarkson et al. (2013) and Dhaliwal et al. (2014), that CSR disclosure is value-relevant and incrementally informative. More importantly, the findings complement and extend the study of Plumlee et al. (2015), who briefly suggest that information nature and information type may have joint effects. This study provides in-depth discussion of the interactions between information components, and reveals their different combined effects on perceived firm risk and future performance.

Third, this thesis adds to the CSR disclosure literature by investigating the relationship between CSR disclosure and debt maturity. Prior studies focus on the cost of equity but remain silent on the debt maturity (Dhaliwal et al., 2011; 2014). Since debt is the most important source of external finance in China and has some unique features, this thesis provides incremental insights to assist managers in obtaining external financing (Jiang & Kim, 2015).

Fourth, this thesis extends our knowledge regarding the impact of CSR disclosure on external finance in an emerging market. Prior studies focus on developed countries, such as the UK and US, while little is known about developing nations. As the biggest emerging market, China is highly opaque and has some unique features (for more details, see section 3.4). Therefore, this thesis takes Chinese firms as examples, to explore how mangers use non-financial disclosure to signal firm risk, and their performance towards investors in an emerging market with high level of opacity.

6.3.2 Implications

This thesis provides some implications for investors, managers and regulators. First, this thesis focuses on the nature and type of CSR information, which is informative and valuable for investors assessing firm risk. Prior studies mainly focus on the quality of CSR disclosure in terms of the information level (Richardson & Welker, 2001). Recent studies investigate either the nature of CSR information or the type of CSR information (Clarkson et al., 2013; Groening & Kanuri, 2018). This thesis follows Plumlee et al. (2015) by breaking down CSR disclosure into nature and type of information to provide comprehensive and in-depth discussions about the CSR disclosure. This thesis shows that both information nature and information type have different signalling effects on investors. Therefore, CSR disclosure should be decomposed into information components and analysed at disaggregate level. With this method, investors can better capture and understand variation in aspects of CSR disclosure, and can evaluate firm risk in a more accurate way.

Second, this thesis helps managers to better understand the differences in perceptions and responses towards the same information between shareholders and lenders. For instance, the findings show that both shareholders and lenders care about negative information. Shareholders are likely to regard negative information as an increase in firm risk and consequently require a higher return. On the other hand, lenders respond favourably to negative information by requiring more relaxed contracting terms. These findings suggest that as the owners of the firm, shareholders consider that CSR disclosure can enhance a firm's performance and benefit their investment, but lenders tend to be more cautious due to their asymmetric payoff and short-term investment comparing with shareholders. Therefore, the differences in interests lead to different recognitions and reactions of shareholders and lenders to negative CSR information. It can be seen that the differences in interpreting and responding the same information between shareholders and lenders are due to their differences in terms of potential risk and payoff.

Third, this thesis reveals the complex interactions between information components and shows the different combined effects of information components on investors' perceptions. This thesis extends the studies of Plumlee et al. (2015) and Crifo et al. (2015) by investigating the combined impacts of information nature and type on the perception of investors. Prior studies suggest there are some interactions between information nature and information type, although only a few provide discussion about these interactions (Bertomeu & Marinovic, 2016; Crifo et al., 2015; Hutton et al., 2003; Liberti & Petersen, 2019; Plumlee et al., 2015), and said discussion is brief. This thesis investigates all combinations of information nature and type and discusses, in depth, their impacts on perceived firm risk from the perspectives of investors. The findings provide managers with a detailed insight into which combinations of information nature and type are most valuable to investors when it comes to assessing firm risk.

Last, this thesis provides policy-makers with valuable insights into enhancing investor protection in China – a highly-opaque emerging market. As mentioned in Section 3.4, financial opacity in the Chinese market is high and China's laws and institutions are significantly less developed (Allen et al., 2005; Hu et al., 2018). For these reasons, the Chinese government has developed a series of policies and regulations to enhance corporate governance, including improving the disclosure environment, to enhance the protection of investors (Jiang & Kim, 2015).

This thesis shows how voluntary nonfinancial disclosure can be an additional information source with which to enhance transparency, helping investors better assess firm risk. Furthermore, Chinese CSR guidelines are relatively vague (for more details, see section 3.4.1), and therefore regulators should further develop CSR disclosure policies to ensure firms will faithfully disclose the nature and type of the CSR information.

6.4 Limitations and future research

This thesis has some limitations and also opens up several possibilities for further research into the field of disclosure. First, this thesis followed Hummel and Schlick (2016) to form a CSR disclosure framework which defines a relatively small range of soft information and may not fully reflect the disclosure of soft information. As suggested by the findings and previous studies (Liberti & Petersen, 2019; Dorfleitner et al., 2016), soft information is valuable and informative, and therefore future studies may need to include more soft information items in the CSR disclosure framework.

Second, this thesis takes the GRI G4.0 standards as a base, selecting the CSR disclosure framework proposed by Hummel and Schlick (2016) to form a new CSR disclosure framework. The GRI is a set of global standards and the study of Hummel and Schlick (2016) focuses on European firms. The CSR disclosure framework adopted in this thesis may not fully reflect the specific public concerns about CSR issues in China. Future research may consider including some items which are more relevant, as well as material for Chinese firms to further capture Chinese regulators' concern about CSR disclosure. For instance, the future work may cover some items in the Chinese CSR disclosure guideline (CASS-CSR) 4.0, as developed by the Chinese Academy of Social Science Centre.

Third, this thesis focuses on big firms listed in the CSI 300 index, more than half of which are state-owned. It is worth noting that the relationship between CSR disclosure and external finance among big firms may be different from that among private firms. Private firms tend to experience more difficulties in obtaining lower cost of equity and longer debt maturity, since they are riskier and more opaque. Therefore, the findings may not be applicable to wider rang of non-state owned firms in Chinese context and it would be interesting to investigate the impact of CSR disclosure on external finance among private firms.

Fourth, the determinants of CSR disclosure regarding the nature and type of information and their combinations would be valuable to explore. Prior studies mainly measure CSR disclosure as a whole to investigate what factors influence CSR disclosure (Chiu & Wang, 2015; Ghomi & Leung, 2013). Limited studies focus on the factors determining the nature and type of information and their combinations in CSR disclosure.

Fifth, this study is based on GRI G4 standards and do not consider alternative guidelines of CSR disclosures. In the future, multiple guidelines should be adopted to enhance the validity of CSR disclosure measurement. Meanwhile, since the data of CSR disclosures is manually collection, this study focuses on one year. Future studies should extend to multiples years.

Last, it may be worthwhile to investigate the tone of CSR disclosure and its impact on external finance. Recently, more researchers have become interested in disclosure tone. Evidence shows that tone has a significant influence on investors' perceptions of firm value and risk (Blau et al., 2015; Loughran & McDonald, 2016; Price et al., 2012). Therefore, it would be valuable to explore how the CSR disclosure tone affects external finance regarding pricing and non-pricing terms.

Appendix A

CSR disclosure Index (Hummel & Schlick 2016)

Disclosure Item		Map to GRI G4
		Environmental dimension

Material used	EN1	Materials used by weight or volume
		a. Report the total weight or volume of materials that are used to produce and package the organization's primary products and services during the reporting period, by:
		    Non-renewable material used;
		    Renewable materials used

	EN2	Percentage of materials used that are recycled input materials a. Report the percentage of recycled input materials used to manufacture the organization's primary products and services

Energy consumption and renewables	EN3	Energy consumption within the organization
		a. Report total fuel consumption from non-renewable sources in joules or multiples, including fuel types used.
		b. Report total fuel consumption from renewable sources in joules or multiples, including fuel types used.
		c. Report in joules, watt-hours or multiples, the total:
		    Electricity consumption
		    Heating consumption
		    Cooling consumption
		Steam consumption
		d. Report in joules, watt-hours or multiples, the total:
		    Electricity sold
		    Heating sold
		    Cooling sold
		    Steam sold
		e. Report total energy consumption in joules or multiples.
		f. Report standards, methodologies, and assumptions used.
		g. Report the source of the conversion factors used.

Water withdrawal	EN8	Total water withdrawal by source
		a. Report the total volume of water withdrawn from the following sources:
		    Surface water including water from wetlands, rivers, lakes and oceans
		    Ground water
		    Rainwater collected directly and stored by the

(Continued on next page)

Disclosure Item		Map to GRI G4
		Environmental dimension

		organization
		      Waste water from another organization
		      Municipal water supplies or other water utilities
		b. Report standards, methodologies, and assumptions used.

Greenhouse gas emissions	EN15	Direct green house gas (GHG) emissions (scope 1) a. Report gross direct (scope 1) GHG emissions in metric tons of CO_2 equivalent, independent of any GHG trades, such as purchases, sales, or transfers of offset or allowances. b. Report gases included in the calculation (whether CO_2, CH_4, N_2O, HFC_s, PFC_s, SF_6, NF_3, or all). c. Report biogenic CO_2 emissions in metric tons of CO_2 equivalent separately from the gross direct GHG emissions. d. Report the chosen base year, the rationale for choosing the base year, emissions in the base year, and the context for any significant changes in emissions that triggered recalculations of base year emissions. e. Report standards, methodologies, and assumptions used. f. Report the source of the emission factors used and the global warming potential (GWP) rates used or a reference to the GWP source. g. Report the chosen consolidation approach for emissions (equity share, financial control, operational control).
	EN16	Energy indirect greenhouse gas (GHG) emissions (scope 2) a. Report gross energy indirect (scope 2) GHG emissions in metric tons of CO_2 equivalent, independent of any GHG trades, such as purchases, sales, or transfers of offsets or allowances. b. Report gases included in the calculation, if available. c. Report the chosen base year, the rationale for choosing the base year, emissions in the base year, and the context for any significant changes in emissions that triggered recalculations of base year emissions. d. Report standards, methodologies, and assumptions used.

CSR disclosure Index (Hummel & Schlick 2016) (Continued)

Disclosure Item	Map to GRI G4	
		Environmental dimension
Greenhouse gas emissions		e. Report the source of the emission factors used and the global warming potential (GWP) rates used or a reference to the GWP source, if available. f. Report the chosen consolidation approach for emissions (equity share, financial control, operational control).
	EN17	Other indirect greenhouse gas (GHG) emissions (scope 3) a. Report gross other indirect (Scope 3) GHG emissions in metric tons of CO_2 equivalent, excluding indirect emissions from the generation of purchased or acquired electricity, heating, cooling, and steam consumed by the organization (these indirect emissions are reported in Indicator G4-EN16). Exclude any GHG trades, such as purchases, sales, or transfers of offsets or allowances. b. Report gases included in the calculation, if available. c. Report biogenic CO_2 emissions in metric tons of CO_2 equivalent separately from the gross other indirect (Scope 3) GHG emissions. d. Report other indirect (Scope 3) emissions categories and activities included in the calculation. e. Report the chosen base year, the rationale for choosing the base year, emissions in the base year, and the context for any significant changes in emissions that triggered recalculations of base year emissions. f. Report standards, methodologies, and assumptions used. g. Report the source of the emission factors used and the global warming potential (GWP) rates used or a reference to the GWP source, if available.
Ozone-depleting substances and other air emissions	EN20	Emissions of Ozone-depleting substances (ODS) a. Report production, imports, and exports of ODS in metric tons of CFC-11 equivalent. b. Report substances included in the calculation. c. Report standards, methodologies, and assumptions used. d. Report the source of the emission factors used.

CSR disclosure Index (Hummel & Schlick 2016) (Continued)

Disclosure Item		Map to GRI G4
		Environmental dimension
Ozone-depleting substances and other air emissions	EN21	NOX, SOX, and other significant air emissions a. Report the amount of significant air emissions, in kilograms or multiples for each of the following: 　NOX 　SOX 　Persistent organic pollutants (POP) 　Volatile organic compounds (VOC) 　Hazardous air pollutants (HAP) 　Particulate matter (PM) 　Other standard categories of air emissions identified in relevant regulations b. Report standards, methodologies, and assumptions used. c. Report the source of the emission factors used.
Water discharge	EN22	Total water discharge by quality and destination a. Report the total volume of planned and unplanned water discharges by: 　Destination 　Quality of the water including treatment method 　Whether it was reused by another organization b. Report standards, methodologies, and assumptions used.
Waste	EN23	Total weight of waste by type and disposal method a. Report the total weight of hazardous and non-hazardous waste, by the following disposal methods: 　Reuse 　Recycling 　Composting 　Recovery, including energy recovery 　Incineration (mass burn) 　Deep well injection 　Landfill 　On-site storage 　Other (to be specified by the organization) b. Report how the waste disposal method has been determined: 　Disposed of directly by the organization or otherwise directly confirmed 　Information provided by the waste disposal contractor

CSR disclosure Index (Hummel & Schlick 2016) (Continued)

Disclosure Item		Map to GRI
Environmental dimension		
Waste	EN23	Organizational defaults of the waste disposal contractor
Social dimension		

Workforce	LA12	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity
		a. Report the percentage of individuals within the organization's governance bodies in each of the following diversity categories:
		    Gender
		    Age group: under 30 years old, 30-50 years old, over 50 years old
		    Minority groups
		    Other indicators of diversity where relevant
		b. Report the percentage of employees per employee category in each of the following diversity categories:
		    Gender
		    Age group: under 30 years old, 30-50 years old, over 50 years old
		    Minority groups
		    Other indicators of diversity where relevant

Employee turnover	LA1	Total number and rates of new employee hires and employee turnover by age group, gender and region a. Report the total number and rate of new employee hires during the reporting period, by age group, gender and region. b. Report the total number and rate of employee turnover during the reporting period, by age group, gender and region.
	LA3	Return to work and retention rates after parental leave, by gender a. Report the total number of employees that were entitled to parental leave, by gender. b. Report the total number of employees that took parental leave, by gender. c. Report the total number of employees who returned to work after parental leave ended, by gender.

(Continued on next page)

CSR disclosure Index (Hummel & Schlick 2016) (Continued)

		Social dimension
Employee turnover	LA3	d. Report the total number of employees who returned to work after parental leave ended who were still employed twelve months after their return to work, by gender. e. Report the return to work and retention rates of employees who took parental leave, by gender.

Collective bargaining agreements	HR4	Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and measures taken to support these rights
		a. Report operations and suppliers in which employee rights to exercise freedom of association or collective bargaining may be violated or at significant risk either in terms of:
		    Type of operation (such as manufacturing plant) and supplier
		    Countries or geographical areas with operations and suppliers considered at risk
		b. Report measures taken by the organization in the reporting period intended to support rights to exercise freedom of association and collective bargaining.

Safety and health	LA5	Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programs a. Report the level at which each formal joint management-worker health and safety committee typically operates within the organization. b. Report the percentage of the total workforce represented in formal joint management-worker health and safety committees.

	LA6	Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender
		a. Report types of injury, injury rate (IR), occupational diseases rate (ODR), lost day rate (LDR), absentee rate (AR) and work related fatalities, for the total workforce (that is, total employees plus supervised workers), by:
		    Region
		    Gender

Social dimension		

Safety and health	LA6	b. Report types of injury, injury rate (IR), occupational diseases rate (ODR), lost day rate (LDR), absentee rate (AR) and work related fatalities for independent contractors working on-site to whom the organization is liable for the general safety of the working environment, by:
		    Region
		    Gender
		c. Report the system of rules applied in recording and reporting accident statistics.

	LA7	Workers with high incidence or high risk of diseases related to their occupation a. Report whether there are workers who are involved in occupational activities who have a high incidence or high risk of specific diseases.
	LA8	Health and safety topics covered in formal agreements with trade unions a. Report whether formal agreements (either local or global) with trade unions cover health and safety. b. If yes, report the extent, as a percentage, to which various health and safety topics are covered by these agreements.

Training	LA9	Average hours of training per year per employee by gender, and by employee category
		a. Report the average hours of training that the organization's employees have undertaken during the reporting period, by:
		    Gender
		    Employee category

	LA10	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings a. Report on the type and scope of programs implemented and assistance provided to upgrade employee skills. b. Report on the transition assistance programs provided to facilitate continued employability and the management of career endings resulting from retirement or termination of employment.

CSR disclosure Index (Hummel & Schlick 2016) (Continued)

		Social dimension

Discrimination	HR3	Total number of incidents of discrimination and corrective actions taken
		a. Report the total number of incidents of discrimination during the reporting period.
		b. Report the status of the incidents and the actions taken with reference to the following:
		    Incident reviewed by the organization
		    Remediation plans being implemented
		    Remediation plans have been implemented and results reviewed through routine internal management review processes
		    Incident no longer subject to action

Child, forced and compulsory labor	HR5	Operations and suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor
		a. Report operations and suppliers considered to have significant risk for incidents of:
		    Child labor
		    Young workers exposed to hazardous work
		b. Report operations and suppliers considered to have significant risk for incidents of child labor either in terms of:
		    Type of operation (such as manufacturing plant) and supplier
		    Countries or geographical areas with operations and suppliers considered at risk
		c. Report measures taken by the organization in the reporting period intended to contribute to the effective abolition of child labor.

	HR6	Operations and suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor
		a. Report operations and suppliers considered to have significant risk for incidents of forced or compulsory labor either in terms of:
		    Type of operation (such as manufacturing plant) and supplier
		    Countries or geographical areas with operations and suppliers considered at risk

CSR disclosure Index (Hummel & Schlick 2016) (Continued)

Social dimension		
		b. Report measures taken by the organization in the reporting period intended to contribute to the elimination of all forms of forced or compulsory labor.

According to Al-Tuwaijri et al. (2004) and Smith & Taffler (2000), CSR disclosure is normally measured by two types of techniques namely space measures and content scores. Space measures tries to quantify disclosures through the 'unit of analysis' (Milne & Adler, 1999). The unit of analysis has various forms including the number of words, sentences and pages, and the percentage of total disclosures (Deegan & Rankin, 1996; Hackston & Milne, 1996; O'Dwyer & Gray, 1998; Tsang, 1998; Trotman & Bradley, 1981). However, these unites are strongly influenced by writing styles, font size, margins, graphics etcetera etc which may be problematic and not same as the quality of disclosure (Hackston & Milne, 1996). On the other hand, content scores focus on the underlying themes discussed in the disclosure which allows researchers to identify the CSR information they are interested and check whether these issues are addressed (Chauvey et al., 2014; Smith & Taffler, 2000). Accordingly, based on the themes a disclosure index is developed and the presence or the absence of each theme is coded as yes or no (1 or 0) which refers to the breadth of disclosure (Chauvey et al., 2014). Furthermore, since the amount of CSR information disclosed is important for both managers and information users, it is necessary to assign different levels of disclosure according to quantitative or qualitative terms (Chauvey et al., 2014). In addition, this thesis studies CSR reports written in Chinese and Chinese language is very different from English in terms of spelling and expression. Therefore, this thesis follows Plumlee et al. (2015) to classify CSR information according to information nature, 'Nature', and information type, 'Type' and adopts 1 or 0 to score the information presented in the CSR disclosure.

'Nature' refers to the information nature which is classified into three dummy variables namely, 'Positive'and 'Negative'.

'Positive' refers to the information which is positive. If the information is positive, it is 1. Otherwise, it is 0. 'Negative' refers to the information which is negative. If the information is negative, it is 1. Otherwise, it is 0.

'Type' refers to the information type. 'Hard' refers to the quantitative information, while 'Soft' information refers to the qualitative information.

'Hard' is categorized in to 1-6 which are dummy variables. 1 means the relevant information is mentioned; 2 means the relevant information relative to peers/ rivals or industry; 3 means the relevant information relative to previous period; 4 means the relevant information relative to target; 5 means the relevant information both in absolute and normalized form; 6 means the relevant information in disaggregate level. If the corresponding information is disclosed, it is 1. Otherwise, it is 0.

'Soft' is a dummy variable. If the relevant information is qualitative, it is 1. Otherwise, it is 0.

Appendix B

An example of using the CSR disclosure index to assign the quality of CSR disclosure is presented as follow:

In the CSR disclosure index, "Training" includes LA9 and LA10. LA9 is about the training hours of employees. In CSR report 2015 of China Baoan Group co., LTD. (000009), section 2.2.2, p.11, is about this content. The translated version is as follows:

The Group emphasizes the importance of having a professional team and encourages learning within the organization. By organizing training at multi-levels and multi-dimensions, and through different channels, the group tries to improve employees' ideological awareness, management level and professional skills. It periodically distributes various study materials, including high quality books, audios and videos to employees and requires them to read carefully, make notes and publish articles about their study experience. Subordinate firms and organizations provide training for employees during the evenings or weekends and training hours are more than 16 hours per month. The regular training is about the corporate culture, including value, basic experiences, systems, regulations etc., and various professional and other skills required by positions and personal needs. For this training in urgently needed skills, the costs are fully paid to strongly encourage employees to obtain professional qualifications, which are taken into account when selecting and appointing as a key to internal flow and staff promotions. The Group makes full use of social resources, helping employees to improve their knowledge of ways of enhancing the impetus of the development of the Group. In 2015, the Group did the following works in the field of team building and training:

1. The Group has strengthened the construction of the reserve cadre team, organizing and improving the talent pool of reserve cadres by forming the 'Baoan Group Youth Core Training Program' and the '2015 Management Youth Core Training

Implementation Plan', and by holding the first youth backbone training successfully. The youth backbone training plan, used to select the reserve talents, is combined with the selection of middle-level deputies and senior deputies of subordinate firms, developing the plan for the first phase of the youth backbone trainings and implementing it. After the selection, 26 members, including employees from 7 departments at group headquarters and 12 subordinate firms participated in the training.

2. The Group successfully held two middle and high level training sessions, the 27th issue of 'Brand and Marketing Innovation in the Internet Era' and the 28th issue of 'Disruptive Innovation in the Mobile Internet Era', at headquarters. The overall satisfaction for bothevents was above 97.5%.

3. The Group launched the Era Guanghua online training and the executive follow-up program at the Institute of Advanced Study, Tsinghua University. The executive training program includes 13 courses and 16 participants followed up. They came from the Audit management department, strategy department, investment department, law department and Dafo Parmaceutical Co. Ltd.. These programs provided more targeted training to headquarters staff and required participants to share the content of the training within their departments.

4. The Group certified 26 staff working at headquarters and offered qualifications. Among them, 22 staff passed the qualification assessment.

5. The Group purchased 22 books in 9 batches and distributed them to managers at different levels based on category and content.

6. Each department held professional training for no less than 16 hours per month.

The CSR disclosure item is analyzed as follow:

Security code	Training									
	LA9									
000009	Information type							Information nature		
	Hard						Soft			
	1	2	3	4	5	6		Positive		Negative
	1	0	0	0	1	1	0	1		0

In this case, the disclosure of LA9 is hard and scored as 3 and LA9 item is positive.

Therefore, it is recorded as:

Total Disclosure	3	Positive Hard	3
Hard	3	Negative Hard	0
Soft	0	Positive Soft	0
Positive	1	Negative Soft	0
Negative	0		

In this case, China Baoan Group co., LTD. (000009) disclosed information covered by CSR disclosure item LA9. The total disclosure score is 3; hard disclosure score is 3; positive disclosure is 1; positive hard disclosure is 3.

Appendix C

Summary of findings of empirical chapters

Chapter 5 Impact of CSR disclosures on the cost of equity

Findings: 1. CSR disclosure is positively associated with the cost of equity. 2. CSR positive disclosure is negatively associated with the cost of equity. 3. CSR negative disclosure is positively associated with the cost of equity. 4. CSR hard disclosure is not associated with the cost of equity. 5. CSR soft disclosure is positively associated with the cost of equity. 6. CSR positive hard disclosure is negatively associated with the cost of equity. 7. CSR positive soft disclosure is negatively associated with the cost of equity. 8. CSR negative hard disclosure is positively associated with the cost of equity. 9. CSR negative soft disclosure is positively associated with the cost of equity.

Chapter 6 Impact of CSR disclosures on debt maturity

Findings: 1. CSR disclosure is positively associated with debt maturity. 2. CSR positive disclosure is negatively associated with debt maturity. 3. CSR negative disclosure is positively associated with debt maturity. 4. CSR hard disclosure is not associated with debt maturity. 5. CSR soft disclosure is positively associated with debt maturity. 6. CSR positive hard disclosure is not associated with debt maturity. 7. CSR positive soft disclosure is negatively associated with debt maturity. 8. CSR negative hard disclosure is not associated with debt maturity. 9. CSR negative soft disclosure is positively associated with debt maturity.

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