

Firm performance, corporate ownership, and corporate social responsibility disclosure in China

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The existing literature provides conflicting results on the association between firm performance and corporate social responsibility (CSR) disclosure. This paper empirically examines the effect of firm performance on CSR disclosure in terms of disclosure frequency and quality among Chinese listed firms and the possible mediating effect of corporate ownership on the relationship between firm performance and CSR disclosure. Our findings show that better-performing firms are more likely than worse-performing ones to disclose CSR information and to produce higher quality CSR reports. In addition, the link between firm performance and CSR disclosure is found to be weaker among state-owned enterprises compared with non-state-owned ones.

Introduction

Corporate social responsibility (CSR) disclosure has attracted much attention over the past three decades. It reduces the information gap between the firm and stakeholders and thus lowers the firm's cost of capital (Cormier *et al.* 2011, Dhaliwal *et al.* 2011) and enhances firm value (Margolis & Walsh 2003, Orlitzky *et al.* 2003). It also provides a channel through which the firm can manage its public image (Hooghiemstra 2000).

It is essential to understand the factors affecting a firm's decision to disclose CSR information and the quality of CSR disclosure, as stakeholders and the public depend on such information to evaluate firm CSR. Prior studies have investigated various corporate characteristics such as firm size, leverage, and industry, among others (Gray *et al.* 1995, 2001, Cormier *et al.* 2005, Reverte 2009). The existing evidence, however, is inconclusive regarding the relation between firm performance and CSR disclosure.

Although Roberts (1992) documents a positive relationship, many studies find either no relationship or an inverse relationship between profitability and CSR disclosure (Patten 1991, Neu *et al.* 1998, Cormier *et al.* 2005, Branco & Rodrigues 2008, Reverte 2009).

According to stakeholder management theory (Jamali 2008), managers balance diverse information requests from multiple stakeholders and may not respond to all stakeholders with the same degree of attention. Rather than satisfying every stakeholder, firms prioritize their stakeholders after assessing stakeholder attributes, including power, legitimacy and urgency (Mitchell *et al.* 1997). Different firms face different expectations from their stakeholders and have different prioritization processes. In firms with critical stakeholders, managers will give more consideration to their demands and disclose more CSR information, regardless of the level of firm performance.

This study seeks to examine the effect of firm performance on CSR disclosure in China from the

perspective of corporate ownership. We focus on Chinese companies for several reasons. First, as Gray *et al.* (2001) and Smith *et al.* (2005) indicate, country of origin may be an important determinant of the level of CSR disclosure. Whereas many studies have focused on the variation in CSR disclosure across developed nations (e.g. Freedman & Stagliano 1992, Fekrat *et al.* 1996, Gamble *et al.* 1996, Williams & Pei 1999, Smith *et al.* 2005, Gray & Bebbington 2007), only a few have addressed this issue in developing countries (Haniffa & Cooke 2005, Islam & Deegan 2008), and not much attention to date has been directed toward CSR disclosure in China.

Second, in response to increasing criticism regarding the low level of CSR among Chinese companies, China has taken several steps to promote social responsibility among firms. Although China has achieved dramatic economic growth in the last several decades, Chinese companies are often subject to criticism related to environmental pollution, labor rights, low-quality products and so forth (Wang & Juslin 2009, Lin 2010). Since 2004, China has launched several initiatives to promote CSR development. For instance, the 2006 Chinese Company Law requires companies not only to comply with laws and administrative regulations but also to operate in accordance with social morals and business ethics. In 2008, the Chinese government issued CSR principles to be followed by central-government-controlled companies. The two stock exchanges, the Shenzhen and Shanghai Stock Exchanges, released their guidelines for CSR disclosure in September 2006 and May 2008, respectively, and encouraged listed companies to include CSR information in their annual reports in 2008. As a result, the number of Chinese companies disclosing such information increased sharply from fewer than 10 in 2004 to nearly 400 in 2009 [Running & Loving Consulting for Common Welfare (RLCCW) 2009].

Third, the majority of Chinese firms are state-owned enterprises (SOEs). In addition to profitability goals, these SOEs have many social goals, which are sometimes in conflict with efficiency ones. Therefore, compared with non-state-owned enterprises (NSOEs), they may have a different process of prioritization when deciding on the extent of CSR disclosure. China provides a good opportunity to

observe how firm performance affects the decision of managers in these firms to disclose CSR information.

Employing a sample of Chinese listed firms in 2008, we document that on the average, firm performance is positively related to CSR disclosure. More specifically, we find that better-performing firms are more likely to disclose CSR activities and to produce higher quality CSR reports compared with their worse-performing counterparts. In addition, we find that the relationship between firm performance and CSR disclosure is weaker among SOEs compared with NSOEs.

We extend the understanding of the association between firm performance and CSR disclosure in two additional ways. First, prior research suggests that a firm's national institutional context, which includes legal, regulatory and professional structures, influences the quality of its CSR disclosure (Smith *et al.* 2005). We provide evidence of an entirely different development path of CSR disclosure in China. Our results enrich the understanding of the evolution of CSR disclosure in different institutional environments. Second, we highlight the importance of corporate ownership in the relationship between firm performance and CSR disclosure and show that different types of corporate ownership lead to different emphases by managers in stakeholder management and thus affect disclosure decisions. This provides further insights into the extent to which firm performance affects a firm's decision to disclose its CSR activities and the quality of its CSR reports.

The remainder of this paper is organized as follows. The next section presents the literature review and develops the hypotheses. The third section discusses the research design. The empirical results are reported in the fourth section, and the fifth section concludes the paper.

Literature review and hypothesis development

Stakeholder management and CSR disclosure

Traditionally, a firm is accountable only to its stockholders, and its objective is to maximize the value of the firm. Its activities, however, affect a wide range of other stakeholders, including employees, suppliers,

customers, governments, local communities and the environment (Simmons 2004, Brickson 2007). Stakeholder theory posits that a firm's long-term existence depends upon addressing stakeholders' concerns, and CSR has expanded firm responsibilities to stakeholders and the public (Freeman 1984, Donaldson & Preston 1995).

Porter & Kramer (2006) propose that CSR can be much more than a cost, constraint or charitable deed and that it can, in fact, be a potent source of innovation and competitive advantage. Being socially responsible brings firms various potential benefits such as improved labor relations and employee productivity, less risk of litigation related to its products/services, fewer complaints from the community because of environmental issues, lower regulatory costs and better brand recognition, among others. These potential benefits suggest that socially responsible firms will perform better. Cochran & Wood (1984), McGuire *et al.* (1988) and Beurden & Gössling (2008) document a positive association between CSR and financial performance.

Managing the diverse range of interests of multiple stakeholders, however, is the biggest challenge for firms. A firm's actions have different impacts on its stakeholders, while stakeholders have various expectations of and demands on the firm and therefore place different emphases on the firm's responsibilities, which causes conflicts of interest among stakeholder groups (Barney 1991, Ogden & Watson 1999, Greenley *et al.* 2004, Galbreath 2006). Rather than trying to satisfy every stakeholder, firms prioritize their stakeholders after assessing the resource needs of each stakeholder group (Pfeffer 1981) and the legitimacy and urgency of attending to the needs of stakeholder groups (Mitchell *et al.* 1997). Several studies provide evidence in support of this process of prioritization, including those of Clarkson (1995), Uhlaner *et al.* (2004), Papasolomou-Doukakis *et al.* (2005), Galbreath (2006) and Jamali (2008).

By disclosing CSR information, a firm addresses the information needs of stakeholders and provides a basis for dialogue between the firm and its stakeholders (Dierkes & Antal 1985, Gray *et al.* 1995). As a critical avenue of stakeholder management, CSR disclosure shapes external perceptions of the firm, helps relevant stakeholders assess whether the firm is a good corporate citizen and ultimately justifies the

firm's continued existence to its stakeholders. Gelb & Strawser (2001) argue that a greater level of disclosure is itself a form of socially responsible behavior.

Managers must weigh the benefits and costs of disclosing CSR information. The literature on disclosure indicates that increased levels of disclosure lead to a reduction in information asymmetry between managers and investors (Kim & Verrecchia 1994, Botosan 1997) and thus help increase stock liquidity, attract institutional investors and eventually lower the firm's cost of capital (Gibbins *et al.* 1990, Clarkson *et al.* 1994, Frankel *et al.* 1995, Botosan 1997, Healy *et al.* 1999, Healy & Palepu 2001). Blacconiere & Patten (1994) find that firms that gave more environmental information in their financial report prior to a chemical leak experienced a less negative market reaction than firms that provided less such information. Their results suggest that investors interpreted such disclosure as a positive sign of the firm managing its exposure to future regulatory costs. In a recent study, Dhaliwal *et al.* (2011) find that firms with a high cost of equity capital tend to release CSR reports and that reporting firms with relatively superior social responsibility performance enjoy a reduction in the cost of equity capital. CSR information, however, may be used by stakeholders against the firm and hence hurt firm value. For instance, the community may use disclosed information on the environmental impact of corporate operations to file a lawsuit against the firm, while the disclosure of the effect of company products on consumer health and safety may also result in consumer actions that have negative monetary implications for the company. In addition, the release of CSR information such as labor practices and relations and supplier and customer interactions may result in a loss of competitive edge (Healy & Palepu 2001).

Most importantly, prioritization affects the disclosure decision of managers. As they receive multiple information requests from diverse groups of stakeholders, managers direct their disclosure efforts toward key stakeholders that are judged as such based on factors including power, legitimacy and urgency (Mitchell *et al.* 1997). Key stakeholders receive more attention from the management of a firm, and the issues of concern to them are more likely to be addressed in the CSR disclosure.

Firm performance and CSR disclosure among Chinese companies

The primary stakeholders of a firm are its shareholders, who are concerned with firm profitability. From a legitimacy perspective, firms with good performance need to demonstrate their contribution to social and community interests and provide greater disclosure of their CSR activities to avoid regulation (e.g. Ng & Koh 1994, Cho & Patten 2007). This argument suggests a positive relation between firm performance and the likelihood of CSR disclosure and disclosure quality. The existing evidence, however, is mixed. Some studies confirm a positive relationship. Roberts (1992), Alnajjar (2000) and Haniffa & Cooke (2005), for example, find that CSR disclosure is positively related to profitability. In contrast, Neu *et al.* (1998) find that unprofitable firms disclose more environmental information in annual reports, Gray *et al.* (2001) find that the relationship between profitability and CSR disclosure is not stable from year to year and Freedman & Jaggi (1988), Belkaoui & Karpik (1989), Patten (1991), Cormier *et al.* (2005), Branco & Rodrigues (2008) and Reverte (2009) do not find any significant relationship between firm performance and CSR disclosure.

Gray *et al.* (2001) suggest that differences in cultural and institutional factors among countries may explain the mixed results of the relation between profitability and CSR disclosure. Examining data for Norwegian, Danish and US companies, Smith *et al.* (2005) find evidence that cultural and institutional factors affect CSR disclosure. China has unique cultural and institutional features that affect managerial incentives regarding CSR and the process of stakeholder prioritization, and hence the decision by managers to disclose CSR information. From the stakeholder management perspective, however, shareholder primacy (the view that firms exist only to make money for their shareholders) is still dominant in Chinese companies, and stakeholders have little influence. Lin (2010) argues that even though China has introduced several initiatives to promote CSR, the pressure on Chinese companies from stakeholders to demonstrate CSR is quite weak, and stakeholder expectations are low. There are a number of possible explanations for this. First, although the

government launched some CSR initiatives, regulatory costs for irresponsible behavior are not clearly addressed, which may lead Chinese companies to remain uncommitted to, and place little priority on, CSR. Second, unlike their counterparts in Western countries, Chinese consumers are lagging in pressuring companies to develop and produce goods and services in a responsible fashion. Lack of consumer awareness is one reason, but the most important one is the deficiency in consumer rights protection in China. Third, critical players in CSR, nongovernmental organizations, are handicapped by the Chinese government and the political environment in China, in not only their formation but also their CSR agenda. Fourth, the community most affected by irresponsible environmental behavior on the part of companies lacks appropriate channels to express its concerns and lacks legal help for its protection. Fifth, whereas developed countries have witnessed significant growth in socially responsible investing (SRI), investors in Chinese capital markets are typically short-term oriented, with little concern for SRI. This, in turn, negatively affects managerial perceptions of the importance of CSR and the weight that they assign to it.

Jamali (2008) contends that firms in developing countries prioritize their stakeholders based primarily on instrumental considerations, namely, bottom-line firm performance. Consistent with Jamali's (2008) argument, a questionnaire survey of 83 Chinese firms by Zu & Song (2009) finds that Chinese managers perceive that CSR activities serve the economic aims of firms. Because of the lack of regulatory costs and stakeholder influence in China, managers of Chinese companies mainly consider profitability when deciding on the level and quality of CSR disclosure. Therefore, in China, only when a firm performs well does it have the motivation and incentive to disclose its CSR activities to stakeholders. Regarding CSR disclosure, managers have two decisions to make: (1) whether to issue a CSR report; or (2) how much information will be disclosed in the CSR report, if issuing one. Given the voluntary nature of the CSR report, the decision whether or not to issue a CSR report is a critical one. For those firms issuing CSR reports, however, the quality of CSR report varies. Based on the foregoing discussion, we argue that a positive relationship exists between firm

performance and CSR disclosure among Chinese companies, which leads to our first hypothesis.

Hypothesis 1a: *Better-performing firms are more likely to issue CSR reports than worse-performing ones.*

Hypothesis 1b: *If issuing CSR reports, better-performing firms have higher quality of CSR reports than worse-performing ones.*

State ownership and the performance–CSR disclosure relationship

We also seek to determine whether state ownership affects the relationship between firm performance and CSR disclosure. China has a special institutional background – the majority (nearly 60%) of listed companies are SOEs. Smith *et al.* (2005) suggest that differences in ownership structures across countries may affect stakeholder–company relationships and influence the level and quality of CSR disclosure.

We hypothesize that state ownership weakens the relationship between firm performance and CSR disclosure, for the following three reasons. First, the state as owner often has goals that are different from those of private shareholders. For example, it may give more weight to the maximization of social welfare than the maximization of wealth for shareholders. Therefore, the objectives of SOEs include not only profit but also social aims, such as greater employment. For example, historically, under the ‘danwei’ system, SOEs took social responsibility for their employees by providing safety nets and social protection (Li & Wang 1996). In January 2008, the State-Owned Assets Supervision and Administration Commission of the State Council (SASAC) released the *Guide Opinion on Social Responsibility Implementation by the Central-Government-Controlled State-Owned Enterprises*. This guide shows that SOEs controlled by the central government are responsible for product and service quality, the efficient use of resources and environmental protection, innovation and technology, production safety, protection of employees’ legal rights and charity, as well as profitability.

Second, relative to NSOEs, SOEs are more likely to receive political and financial support from the

government, and governmental leaders have incentives to assist SOEs (Kornai 1993, Brandt & Li 2003, Li & Zhou 2005). For instance, stock market regulators treat SOEs preferentially by providing them with listing privileges based on political rather than economic objectives (Aharony *et al.* 2000). In China, SOEs have greater access to equity offerings for capital needs (Gordon & Li 2003) and debt financing (Sapienza 2004). In addition, the government is more likely to bail out large SOEs when they are in financial distress (Wang *et al.* 2008). In exchange for governmental support, SOEs need to legitimize their position and, thus, are likely to disclose their CSR activities regardless of profitability level.

Third, managers of SOEs are frequently reviewed by government agencies, and their political advancement might depend on their performance. For example, the SASAC has explicit policy guidelines for the evaluation of managers, which include non-financial measures such as environmental and safety ones. The potential loss of political reputation and forced demotion due to poor performance on non-financial measures may force the management to give some priority to socially responsible activities.

In brief, SOEs and NSOEs have different priorities in stakeholder management. Unlike NSOEs, SOEs have incentives to perform and report on socially responsible activities that benefit the community and the society at large, which leads to our second hypothesis.

Hypothesis 2a: *There is a weaker association between firm performance and probability of disclosing CSR information in SOEs than in NSOEs.*

Hypothesis 2b: *There is a weaker association between firm performance and quality of CSR reports in SOEs than in NSOEs.*

Research design

Our initial sample comprises all Chinese listed firms with A-shares at the end of 2008 in the China Stock Market and Accounting Research (CSMAR) database. Following Haniffa & Cooke (2005), we exclude firms in the financial industry. Our final sample con-

Table 1: Sample distribution

	CSR firms	NCSR firms	Total
Agriculture, forestry, livestock farming and fishery	6	32	38
Mining	14	19	33
Food and beverage	15	46	61
Textile, clothes and fur	11	59	70
Timber and furniture	1	5	6
Paper making and printing	6	28	34
Petroleum, chemistry, rubber and plastic	26	150	176
Electronic	14	59	73
Metal and non-metal	48	97	145
Machinery, equipment and instrument	53	196	249
Medicine and biological products	16	84	100
Other manufacturing	9	17	26
Electric power, gas and water production and supply	24	40	64
Construction	11	23	34
Transport and storage	27	38	65
Information technology	23	80	103
Wholesale and retail trade	9	85	94
Real estate	16	56	72
Social service	8	40	48
Communication and cultural industry	2	10	12
Comprehensive	11	60	71
Total	350	1,224	1,574

sists of 1,574 non-financial listed firms. We collect firm financial information from the Sinofin database and stock return data from the CSMAR database. To identify firms that disclose CSR information, we use the 2009 *Blue Book of Corporate Social Responsibility Reporting by A-Share Listed Firms* published by RLCCW (2009), which specializes in CSR reporting and consulting. RLCCW followed Chinese listed companies releasing CSR information between January 2009 and June 2009 and documented 350 CSR reports by Chinese non-financial listed firms in the fiscal year 2008. The percentage of CSR disclosure (22.24%, 350/1,574) among companies in China is much lower than that (53%) of the largest 100 companies in 22 countries in 2008 (KPMG 2011) or that (41.4%) of US firms (Holder-Webb *et al.* 2009). This finding supports the contention of Gray & Bebbington (2007) that a relatively small proportion of firms that are listed worldwide provide CSR information.

Table 1 presents the sample distribution. Industry classification is based on the industry codes of the China Securities Regulatory Commission. In our sample, 249 firms are in the machinery, equipment

and instrument category, which is the largest industry in our sample. In this industry, the number of companies disclosing CSR information (CSR firms) is 53, and the number of those not disclosing CSR information (NCSR firms) is 196.

To examine the relationship between firm performance and the likelihood and quality of CSR disclosure, and the effect of state ownership, we run Probit and Tobit regressions using the following models, respectively:

$$Prob(Dis) = \alpha_0 + \alpha_1 Perf + \alpha_2 SOE + \sum \alpha_k Controls_k + \varepsilon, \quad (1)$$

$$Score = \beta_0 + \beta_1 Perf + \beta_2 SOE + \sum \beta_k Controls_k + \eta, \quad (2)$$

$$Prob(Dis) = \alpha_0 + \alpha_1 Perf + \alpha_2 SOE + \alpha_3 Perf * SOE + \sum \alpha_k Controls_k + \varepsilon, \quad (3)$$

$$Score = \beta_0 + \beta_1 Perf + \beta_2 SOE + \beta_3 Perf * SOE + \sum \beta_k Controls_k + \eta, \quad (4)$$

where *Dis* is a dummy variable for CSR disclosure. If the firm disclosed CSR information in 2008, then *Dis* equals 1, and 0 otherwise. *Score* is a measure of the quality of CSR disclosure. It is the CSR disclosure rating provided by RLCCW (2009). Consistent with Global Reporting Initiative guideline 3.0, RLCCW assigns a numerical rating (ranging from 0 to 100 on a continuous scale) to each covered firm for its CSR disclosure. The total CSR score of a firm comprises a macrocosm rating (40%), a CSR content rating (40%) and a technique rating (20%).¹ *Score* is a firm's total CSR score. If a firm does not disclose CSR information, then *Score* equals 0.

Perf is defined as the return on year-end assets. *SOE* is a dummy variable for corporate ownership. If a firm's ultimate controlling shareholder is the government, then *SOE* equals 1, and 0 otherwise. As these SOEs are listed firms, ownership by the government is not necessarily 100%. *Perf* * *SOE* is the interaction term of *Perf* and *SOE*. In equations (1) and (2), α_1 and β_1 capture the effect of firm performance on the probability of disclosing and quality of CSR information. According to hypotheses 1a and 1b, firms with better performance are more likely to disclose CSR information and to produce higher quality CSR reports than those with worse performance; hence, we expect α_1 and β_1 to be significantly positive. In equations (3) and (4), α_3 and β_3 indicate the impact of state ownership on the relationship between firm performance and CSR disclosure. According to hypothesis 2a and 2b, the effect of firm performance on the likelihood of CSR disclosure and disclosure quality is weaker when a firm is state owned; hence, we expect α_3 and β_3 to be significantly negative.

Following prior research, we control for fundamental characteristics in the four equations as follows.

Size is measured as the natural logarithm of year-end total assets. Larger firms face more public pressure because of their political costs and impact on the community. Thus, they have greater incentive to disclose CSR activities. Studies show that firm size has a positive effect on the level and the quality of CSR disclosure (Branco & Rodrigues 2008, Reverte 2009).

Lev is defined as the year-end total liabilities deflated by the year-end total assets. As key financial stakeholders, creditors may influence firm disclosure

decisions. On the one hand, creditors are concerned about firm risk due to irresponsible behavior, and thus need CSR information. On the other hand, they may have private access to management and hence make fewer requests for public information. Whereas Branco & Rodrigues (2008) document that web CSR disclosures are negatively related to the debt-to-equity ratio, Cormier *et al.* (2005) and Reverte (2009) find no significant relation between leverage and CSR disclosure.

First measures the percentage of stockholdings held by the largest shareholder. For SOEs, *First* indicates the percentage of stockholdings by the government. *Top5* measures the degree of ownership dispersion, calculated using the Herfindahl–Hirschman Index of stockholdings by the top five shareholders. A higher *Top5* value indicates more concentrated ownership. For SOEs, there are shareholders other than the government. *Top5* measures the dispersion of ownership by the government and other four shareholders. Dispersed ownership makes information asymmetry more serious and makes it harder for shareholders to monitor managers. Healy & Palepu (2001) suggest that ownership structure has a significant impact on disclosure policy. Both Cormier *et al.* (2005) and Reverte (2009) find that ownership concentration is negatively related to CSR disclosure quality.

Mng measures the percentage of stockholdings held by the top management. It is possible that managers in SOEs own firm stock, but the percentage of management ownership is quite small in SOEs. Agency problems result when managers hold less than 100% of firm shares, which creates the need for monitoring and providing incentives (Jensen & Meckling 1976).

Age is measured as the number of years from the founding year to 2008. Firms with a longer history are more visible to the public and may attract more attention from regulators. However, as firm history becomes longer, the need for a firm to justify its existence becomes weaker.

We also control for industry effects in equations (1)–(4). Different industries face different degrees and kinds of public pressure, as they have different impacts on the environment and community. Many studies document variation in CSR disclosure across industries (e.g. Patten 1991, Gray *et al.* 1995,

Cormier *et al.* 2005, Gao *et al.* 2005, Holder-Webb *et al.* 2009, Reverte 2009).

Empirical results

Table 2 presents the descriptive statistics for the full, CSR and NCSR samples. It also compares the differences in firm characteristics between the two sub-samples. In the full sample, firm performance (*Perf*) has a mean of 4.01% and a median of 3.75%. The minimum of *Perf* is -0.351. Negative *Perf* means that a firm loses money. From stakeholder prioritization perspective, unprofitable firms are facing huge pressure to meet the needs of shareholders and, thus, are less likely to disclose CSR information. More than half (60.42%) of our sample firms are ultimately controlled by the state (*SOE*). The means of *Size* and *Age* are 21.4536 and 11.9657, respectively. The mean (median) of *Lev* is 0.5408 (0.5240), suggesting that more than half of total assets come from liabilities. *First* has a mean of 0.3619, which suggests that the largest shareholder holds 36.19% of firm stocks. The relative dispersion among the top five shareholders (*Top5*) has a mean of 0.1725 and a median of 0.1449. The median of *Mng* is zero, which shows that the top management of each firm, on average, held a small fraction of firm shares. The mean and median of *Score* for the CSR sample are 28.5255 and 26.875 out of 100 (Table 2, Panel B), respectively, which suggests that when Chinese firms do disclose CSR information, the quality of the reports is far from satisfactory.

Compared with NCSR firms, CSR firms demonstrate better performance (*Perf*). This is consistent with the hypothesis that firms with better performance are more likely to disclose CSR information. CSR firms are also more likely to be controlled by the state than NCSR firms (*SOE*). This is because the objectives of SOEs include not only profit but also social objectives, such as greater employment. CSR firms are larger (*Size*), younger (*Age*) and their corporate ownership more concentrated (*First* and *Top5*).

Table 3 presents the regression results of equations (1)–(4). Model (1) is the Probit regression of the effect of firm performance on the likelihood of CSR disclosure. All *z*-statistics are based on stan-

dard errors with White's (1980) correction. In model (1), the coefficient for *Perf* is 1.304 and significant at the 1% level, indicating that firms with better performance are more likely to disclose CSR information. This result confirms hypothesis 1a; that is, firms with better performance are more likely to disclose CSR information. In model (2), we include the interaction of *Perf* and *SOE* to examine the impact of state ownership. The coefficient for *Perf* * *SOE* is -1.389 and significant at the 5% level, which means that the relationship between firm performance and the likelihood of CSR disclosure is weaker among SOEs than among NSOEs. Our hypothesis 2a is supported.

Model (3) is the Tobit regression of firm performance on the quality of CSR disclosure. The results for model (3) are similar to those for model (1). The coefficient for *Perf* is positive and significant at the 1% level. This is consistent with our hypothesis 1b; that is, firms with better performance produce higher quality CSR reports. In model (4), *Perf***SOE* is negative and significant at the 5% level. The results suggest that the effect of firm performance on disclosure quality is weaker when a firm is state owned; hence, hypothesis 2b is also supported.

Notably, some of our control variables help explain the CSR disclosure decision. Consistent with the prior literature (e.g. Patten 1991, Roberts 1992, Neu *et al.* 1998, Gray *et al.* 2001), we document a positive association between *Size* and the probability of disclosing CSR information. The larger the firm size is, the more likely is the firm to disclose its CSR activities. In addition, there is a significant negative relation between *Lev* and the likelihood of CSR disclosure, which confirms the evidence presented in the study by Branco & Rodrigues (2008) that as firm leverage increases, the likelihood of web CSR disclosure decreases. Furthermore, consistent with the studies by Cormier *et al.* (2005) and Reverte (2009), ownership concentration is negatively related to the probability of disclosing CSR (*Top5*), with the coefficient significant at the 1% level. *First* has a positive coefficient, indicating that as the level of stockholding of the largest shareholder increases, the likelihood of CSR disclosure increases. *Mng* is found to be significantly and positively related to the probability of disclosing CSR information, which implies that when top executives hold more stock, firms are

Table 2: Descriptive statistics

	Mean	Median	Standard deviation	Minimum	Maximum
Panel A: full sample (<i>n</i> = 1,574)					
<i>Perf</i>	0.0401	0.0375	0.0984	−0.3510	0.3671
<i>SOE</i>	0.6042				
<i>Size</i>	21.4536	21.3574	1.3505	10.8422	27.8091
<i>Age</i>	11.9657	12.0000	4.3113	1.0000	27.0000
<i>Lev</i>	0.5408	0.5240	0.2682	0.0714	1.7931
<i>First</i>	0.3619	0.3453	0.1534	0.0850	0.7465
<i>Top5</i>	0.1725	0.1449	0.1202	0.0122	0.5747
<i>Mng</i>	0.0397	0.0000	0.1264	0.0000	0.6823
Panel B: CSR sample (<i>n</i> = 350)					
<i>Perf</i>	0.0705	0.0568	0.0788	−0.2861	0.3671
<i>SOE</i>	0.7086				
<i>Size</i>	22.4060	22.2909	1.3819	19.2761	27.8091
<i>Age</i>	11.3400	11.0000	4.1278	1.0000	24.0000
<i>Lev</i>	0.5308	0.5277	0.2235	0.0714	1.7931
<i>First</i>	0.3925	0.4039	0.1589	0.0850	0.7465
<i>Top5</i>	0.1970	0.1809	0.1278	0.0122	0.5747
<i>Mng</i>	0.0395	0.0001	0.1278	0.0000	0.6823
<i>Score</i>	28.5255	26.8750	8.4046	15.2000	68.7600
Panel C: NCSR sample (<i>n</i> = 1,224)					
<i>Perf</i>	0.0314	0.0319	0.1017	−0.3510	0.3671
<i>SOE</i>	0.5743				
<i>Size</i>	21.1813	21.1436	1.2112	10.8422	26.2531
<i>Age</i>	12.1446	12.0000	4.3475	1.0000	27.0000
<i>Lev</i>	0.5437	0.5237	0.2797	0.0714	1.7931
<i>First</i>	0.3532	0.3335	0.1507	0.0850	0.7465
<i>Top5</i>	0.1655	0.1365	0.1171	0.0122	0.5747
<i>Mng</i>	0.0397	0.0000	0.1260	0.0000	0.6823
Panel D: CSR sample– NCSR sample					
	Mean difference	<i>t</i> -test	Median difference	Wilcoxon test	
<i>Perf</i>	0.0391	6.65***	0.0249	7.62***	
<i>Size</i>	1.2248	16.15***	1.1473	14.41***	
<i>Age</i>	−0.8046	−3.09***	−1.0000	−3.43***	
<i>Lev</i>	−0.013	−0.80	0.0040	0.27	
<i>First</i>	0.0393	4.25***	0.0703	4.21***	
<i>Top5</i>	0.0315	4.35***	0.0444	4.21***	
<i>Mng</i>	0.0002	0.03	0.0000	1.51	
<i>SOE</i>				Chi-square	
				20.51***	

Dis is a dummy variable for CSR disclosure. If the firm discloses information on CSR for year 2008, *Dis* equals 1, and 0 otherwise. *Score* is a variable for the quality of CSR disclosure. It is a CSR disclosure rating provided by RLCCW (2009). *Perf* is defined as return on the year-end assets. *SOE* is a dummy variable for corporate ownership. If a firm's ultimate controlling shareholder is the government, *SOE* equals 1, and 0 otherwise. *Size* is measured as the natural logarithm of year-end total assets. *Age* is measured as the number of years from the founding year to 2008. *Lev* is defined as year-end total liabilities deflated by year-end total assets. *First* is measured as the percentage of stockholdings by the largest shareholder. *Top5* is measured as the degree of ownership dispersion, calculated as Herfindahl–Hirschman Index of stockholdings by top five shareholders. *Mng* is measured as the percentage of stockholdings by top management team.

***Significant at the 1% level; **significant at the 5% level; *significant at the 10% level.

Table 3: Regression results

	(1) <i>Dis</i>	(2) <i>Dis</i>	(3) <i>Score</i>	(4) <i>Score</i>
Intercept	−12.948*** (−13.53)	−13.104*** (−13.81)	−390.967*** (−16.37)	−393.599*** (−16.66)
<i>Perf</i>	1.304*** (5.64)	2.504*** (4.53)	40.877*** (5.44)	75.436*** (4.66)
<i>SOE</i>	0.042 (0.44)	0.143 (1.39)	1.301 (0.44)	4.319 (1.35)
<i>Perf</i> * <i>SOE</i>		−1.389** (−2.42)		−40.470** (−2.35)
<i>Size</i>	0.586*** (13.05)	0.588*** (13.31)	17.721*** (16.77)	17.699*** (17.05)
<i>Age</i>	−0.165 (−1.49)	−0.160 (−1.46)	−4.845 (−1.49)	−4.732 (−1.47)
<i>Lev</i>	−0.752*** (−3.20)	−0.820*** (−3.88)	−23.074*** (−3.39)	−24.781*** (−4.01)
<i>First</i>	2.354*** (2.70)	2.495*** (2.88)	66.670*** (2.67)	69.924*** (2.83)
<i>Top5</i>	−3.931*** (−3.49)	−4.120*** (−3.68)	−110.051*** (−3.45)	−114.419*** (−3.62)
<i>Mng</i>	0.724** (2.05)	0.683* (1.92)	22.441** (2.05)	21.119* (1.93)
Observations	1574	1574	1574	1574
Pseudo <i>R</i> ²	19.91%	20.22%	7.79%	7.89%

Models (1) and (2) are Probit regression models of which dependent variable is *Dis*. Models (3) and (4) are Tobit regression models of which dependent variable is *Score*. *Dis* is a dummy variable for CSR disclosure. If the firm discloses information on CSR for year 2008, *Dis* equals 1, and 0 otherwise. *Score* is a variable for the quality of CSR disclosure. It is a CSR disclosure rating provided by RLCCW (2009). *Perf* is defined as return on the year-end assets. *SOE* is a dummy variable for corporate ownership. If a firm's ultimate controlling shareholder is the government, *SOE* equals 1, and 0 otherwise. *Perf* * *SOE* is the interaction term of *Perf* and *SOE*. *Size* is measured as the natural logarithm of year-end total assets. *Lev* is defined as year-end total liabilities deflated by year-end total assets. *First* is measured as the percentage of stockholdings by the largest shareholder. *Top5* is measured as the degree of ownership dispersion, calculated as Herfindahl–Hirschman Index of stockholdings by top five shareholders. *Mng* is measured as the percentage of stockholdings by top management team. *Age* is measured as the number of years from the founding year to 2008.

***Significant at the 1% level; **significant at the 5% level; *significant at the 10% level.

more likely to disclose CSR information. When the dependent variable is the quality of CSR report (*Score*), the signs of the control variables are the same as those in model (1).

In the previous analysis, as firms without CSR disclosure are four times more than firms with CSR disclosure in our sample, we also apply a matching approach to examine the relationship between firm performance and decision to disclose CSR information. For each firm that discloses CSR information, we randomly select a firm without CSR disclosure in the same industry as a matching firm. Table 4 reports the similar results by using this matching sample. The return on assets is positively associated with the probability of disclosing CSR information and the quality of CSR report. In addition, state ownership weakens such relations.

For the robustness check, we also use Tobin's *q* as a measure of firm performance. Tobin's *q* is calculated as the market value of common stock plus the book value of total liabilities deflated by total assets (Wei *et al.* 2005). We use Tobin's *q* and rerun equations (1)–(4). The results are reported in Table 5.

Models (1) and (2) are the Probit regressions, and models (3) and (4) are the Tobit regressions. In all the models, the coefficients for *Perf* are significant and positive, and those for *Perf* * *SOE* are significant and negative, consistent with the results reported in Table 3.²

Conclusion

In this paper, we empirically examine the effect of firm performance on CSR disclosure, in terms of disclosure frequency and quality, among Chinese listed firms, and the extent to which corporate ownership affects the relationship between firm performance and CSR disclosure. Based on the stakeholder management perspective, we analyze stakeholder attributes in China and posit that shareholder primacy is dominant in the decision of Chinese firms to disclose CSR activities. State ownership, however, brings more attention to the stakeholders of SOEs and hence influences the CSR disclosure behavior of these firms.

Table 4: ROA and CSR disclosure – a matching sample

	(1) <i>Dis</i>	(2) <i>Dis</i>	(3) <i>Score</i>	(4) <i>Score</i>
Intercept	−11.123*** (−9.84)	−11.392*** (−10.03)	−226.470*** (−11.34)	−219.048*** (−11.47)
<i>Perf</i>	3.269*** (4.58)	5.263*** (4.76)	67.749*** (4.84)	101.376*** (5.19)
<i>SOE</i>	0.028 (0.22)	0.186 (1.23)	0.514 (0.20)	3.085 (1.00)
<i>Perf</i> * <i>SOE</i>		−2.866** (−2.05)		−48.845** (−2.00)
<i>Size</i>	0.508*** (9.71)	0.517*** (9.76)	10.567*** (12.05)	10.243*** (12.12)
<i>Age</i>	−0.062 (−0.44)	−0.058 (−0.41)	−1.274 (−0.46)	−0.927 (−0.34)
<i>Lev</i>	−0.633** (−2.54)	−0.714*** (−2.69)	−12.325** (−2.31)	−14.263*** (−2.84)
<i>First</i>	2.509** (2.17)	2.591** (2.26)	38.208* (1.82)	41.398** (2.01)
<i>Top5</i>	−4.415*** (−2.96)	−4.474*** (−3.03)	−66.802** (−2.47)	−71.855*** (−2.74)
<i>Mng</i>	0.842* (1.70)	0.750 (1.50)	16.571 (1.65)	15.459 (1.55)
Observations	700	700	700	700
Pseudo R^2	16.86%	17.20%	5.13%	5.19%

Models (1) and (2) are Probit regression models of which dependent variable is *Dis*. Models (3) and (4) are Tobit regression models of which dependent variable is *Score*. *Dis* is a dummy variable for CSR disclosure. If the firm discloses information on CSR for year 2008, *Dis* equals 1, and 0 otherwise. *Score* is a variable for the quality of CSR disclosure. It is a CSR disclosure rating provided by RLCCW (2009). *Perf* is defined as return on the year-end assets. *SOE* is a dummy variable for corporate ownership. If a firm's ultimate controlling shareholder is the government, *SOE* equals 1, and 0 otherwise. *Perf* * *SOE* is the interaction term of *Perf* and *SOE*. *Size* is measured as the natural logarithm of year-end total assets. *Lev* is defined as year-end total liabilities deflated by year-end total assets. *First* is measured as the percentage of stockholdings by the largest shareholder. *Top5* is measured as the degree of ownership dispersion, calculated as Herfindahl–Hirschman Index of stockholdings by top five shareholders. *Mng* is measured as the percentage of stockholdings by top management team. *Age* is measured as the number of years from the founding year to 2008.

***Significant at the 1% level; **significant at the 5% level; *significant at the 10% level.

Table 5: Tobin's *q* and CSR disclosure

	(1) <i>Dis</i>	(2) <i>Dis</i>	(3) <i>Score</i>	(4) <i>Score</i>
Intercept	−12.575*** (−12.78)	−12.591*** (−12.78)	−384.953*** (−15.60)	−385.309*** (−15.59)
<i>Perf</i>	0.0008*** (4.01)	0.003*** (2.80)	0.001** (2.54)	0.083** (2.03)
<i>SOE</i>	0.018 (0.19)	0.023 (0.24)	0.565 (0.19)	0.692 (0.23)
<i>Perf</i> * <i>SOE</i>		−0.003*** (−2.77)		−0.082** (−2.01)
<i>Size</i>	0.572*** (12.12)	0.572*** (12.12)	17.531*** (15.62)	17.542*** (15.62)
<i>Age</i>	−0.165 (−1.50)	−0.165 (−1.50)	−4.877 (−1.48)	−4.880 (−1.48)
<i>Lev</i>	−0.787*** (−2.98)	−0.789*** (−2.99)	−24.997*** (−3.26)	−25.033*** (−3.27)
<i>First</i>	2.213** (2.53)	2.218** (2.54)	63.831** (2.50)	63.944** (2.51)
<i>Top5</i>	−3.604*** (−3.19)	−3.610*** (−3.19)	−102.556*** (−3.15)	−102.694*** (−3.16)
<i>Mng</i>	0.772** (2.20)	0.774** (2.21)	24.247** (2.20)	24.288** (2.21)
Observations	1574	1574	1574	1574
Pseudo R^2	18.62%	18.63%	7.29%	7.48%

Models (1) and (2) are Probit regression models of which dependent variable is *Dis*. Models (3) and (4) are Tobit regression models of which dependent variable is *Score*. *Dis* is a dummy variable for CSR disclosure. If the firm discloses information on CSR for year 2008, *Dis* equals 1, and 0 otherwise. *Score* is a variable for the quality of CSR disclosure. It is a CSR disclosure rating provided by RLCCW (2009). *Perf* is Tobin's *q* which is calculated as year-end market value of common stock plus year-end book value of total liabilities deflated by year-end total assets. *SOE* is a dummy variable for corporate ownership. If a firm's ultimate controlling shareholder is the government, *SOE* equals 1, and 0 otherwise. *Perf* * *SOE* is the interaction term of *Perf* and *SOE*. *Size* is measured as the natural logarithm of year-end total assets. *Lev* is defined as year-end total liabilities deflated by year-end total assets. *First* is measured as the percentage of stockholdings by the largest shareholder. *Top5* is measured as the degree of ownership dispersion, calculated as Herfindahl–Hirschman Index of stockholdings by top five shareholders. *Mng* is measured as the percentage of stockholdings by top management team. *Age* is measured as the number of years from the founding year to 2008.

***Significant at the 1% level; **significant at the 5% level; *significant at the 10% level.

Using 1,574 Chinese listed firms in 2008, we find that firm performance has a positive impact on CSR disclosure. Our results show that when a firm performs well, it is more likely to disclose its CSR activities and the quality of CSR disclosure is better. In addition, we find that state ownership exerts a moderating effect on the relationship between firm performance and CSR disclosure. The link between firm performance and the likelihood, as well as the quality, of CSR disclosure is found to be weaker among SOEs than among NSOEs.

This paper enriches our understanding of the evolution of CSR disclosure in different institutional environments. It also provides insights into the process by investigating the extent to which firm performance affects the decision of a firm to disclose its CSR activities and the disclosure quality from the perspective of corporate ownership. This paper sheds light on the problem of CSR in China, and its findings have implications for regulators and foreign investors.

Our paper, however, is subject to several limitations. First, we use only 1-year observations. Second, in order to measure the quality of CSR report, we depend on the ratings provided by RLCCW (2009). It is worth further investigation of specific CSR information such as environmental issues and employee welfare.

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Notes

1. Macrocosm evaluation indicators include: (1) effectiveness of CSR strategy; (2) communication with stakeholders (participants, channels, degree of participation, feedback and improvement); (3) completeness: coverage of all stakeholders and coverage of negative CSR information; (4) comparability; (5) innovation; and (6) creditability and transparency. Content evaluation indicators include: (1) governance and strategy: economic, environmental and

social impacts of firm operations, attitude and strategy toward sustainable development, risk assessment and risk management related to sustainable development, governance structure of sustainable development and new product (service) development to meet sustainability needs; (2) management: procedures of managing environmental and social issues, supply chain and value chain management for sustainable development, investment in employee excellence, CSR training, participation in CSR regulatory activities, environmental protection and social investing activities and investor relations related to CSR; and (3) performance: strategic relevance of social performance, key performance indicators of social performance, short-term and long-term plans for social performance and adherence to rules/recommendations such as ISO9000, ISO14000, SA8000, AA1000 and CSC9000. Technique evaluation indicators are related to CSR reporting policy, format, readability, clarity and accessibility. RLCCW evaluates CSR disclosure on each indicator and assigns a value between 0 and 4 to each indicator. The sum of the scores over all of the indicators defined by RLCCW is the total CSR score.

2. The intercept term in Tables 3–5 represents the disclosure probability (Probit regression) or the disclosure score (Tobit regression) when all the explanatory variables are zero. Intuitively, it is meaningless because explanatory variables cannot be all zero. Hence, its significance is purely statistical and has no economic meaning.

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