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Business Groups and Corporate Social Responsibility: Evidence from China

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Business Groups and Corporate Social Responsibility: Evidence from China**Abstract**

This study investigates the impact of firms' business group affiliations on their performance in corporate social responsibility (CSR) in the context of China. We find that firms with a dual-status of simultaneously being a business group member and a state-owned enterprise (SOE) have weaker CSR performance. Our finding is consistent with the view that CSR engagement is a strategy for firms to pursue political legitimacy from the government and seek legitimacy in general from the public. The business group affiliation and the SOE identity together afford legitimacy to the firm and reduce its need to conduct CSR activities.

Keywords: corporate social responsibility (CSR), business group, state-owned enterprise (SOE), legitimacy, China

Data availability: All data used in the study are publicly available from the sources noted in the text.

1. Introduction

A business group is a prevalent organizational structure around the world, particularly in emerging markets (Khanna, 2000). It is a coalition of companies that are legally separate but bound together by a controlling firm either directly or indirectly through economic or social connections (Granovetter, 1995; Fan, Jin, & Zheng, 2016). Many prior studies (e.g., Keister, 1998, 2009; Carney, Shapiro, & Tang, 2009; Guest & Sutherland, 2010; He, Mao, Rui, & Zha, 2013) have investigated the effect of business groups on their member firms' financial performance, but the impact of groups on member firms' performance in corporate social responsibility (CSR) has remained unexplored. This study intends to fill the void by examining the CSR performance of Chinese firms affiliated with business groups. Given the growing interest around the globe in CSR, it is important to understand how business groups, a ubiquitous economic construct in emerging markets (e.g., Brazil, Chile, China, India, Indonesia, Mexico, Pakistan, and Thailand) and also in some developed countries such as Italy and Sweden (Khanna & Yafeh, 2007), affect member firms in this aspect.

We choose to conduct the study in the China context because this country's special institutional environment provides researchers with great opportunities to examine business groups and CSR related issues. After three decades of rapid growth, China has become the second-largest economy in the world. This country's spectacular economic achievement has come with a big price of the severely polluted natural environment and pressing social problems. In view of the environmental and societal challenges, the Chinese government has advocated a "Harmonious Society" and urged companies to be socially responsible since 2006 (See, 2009; Marquis, Zhang, & Zhou, 2011). Business groups, a structure encouraged and supported by the Chinese government (Keister, 1998; Ma & Lu, 2005; Guest & Sutherland, 2010) and being a major actor in the country's economic development, undoubtedly play an important role in fulfilling firms' social responsibility. So far, however,

there is no systemic evidence showing whether Chinese firms associated with business groups perform better or worse in CSR than stand-alone companies. To the best of our knowledge, this study is the first to provide large sample empirical evidence concerning this important issue.

Specifically, we examine a Chinese sample of 3,035 firm-year observations from 2009 to 2014 to find out whether there is a difference in CSR performance between firms affiliated with business groups (hereafter BG firms) and stand-alone companies (non-BG firms). The sample firms are publicly traded in one of two stock exchanges in China and issue at least one CSR report during the sample period. We identify firms' business group affiliations by manually collecting data from firms' annual reports and websites. We use CSR scores from the RKS, the leading CSR rating agency in China, to measure firms' CSR performance.

Our data analysis provides evidence that non-BG firms perform better than BG firms in CSR. This finding applies to not only the overall CSR performance measured by the total CSR score but also four dimensions of CSR performance measured by four components of the total score. Furthermore, after we divide the sample into state-owned enterprises (SOEs) and non-SOEs, it reveals that our prior finding continues to hold in the subsample of SOEs but not in the subsample of non-SOEs. That is, among SOEs, BG firms have poorer CSR performance than non-BG firms, while among non-SOEs, there is no significant difference in CSR performance between BG and non-BG firms. Our empirical tests control for various factors that the prior literature (e.g., Di Giuli & Kostovetsky, 2014; Marquis & Qian, 2014; Lau, Lu, & Liang, 2016) finds to affect CSR performance, including: (1) firms' economic characteristics such as size, financial performance, the proportion of cash holdings, leverage, and firm age; (2) corporate governance variables such as board size, board independence, foreign experience of board members and top managers, female CEOs, and ownership

structure; and (3) some other relevant factors such as the regional development level, voluntary disclosure, and stock cross-listing.

Our results suggest that a firm's dual-status of both possessing a business group affiliation and being an SOE leads to poorer performance in CSR. The finding is consistent with the view that CSR engagement is a strategy for firms to pursue political legitimacy from the government and to seek legitimacy in general from the public. Being a member of a business group and being an SOE at the same time afford political legitimacy to the firm and also reduce the need to pursue general legitimacy due to the relatively secure environment provided by the group. This study has implications for policymakers as well as the general public. Our finding is particularly thought-provoking when viewed in conjunction with the prior findings regarding the effect of Chinese business groups on firms' financial performance. Keister (1998) finds that business groups in China had a positive impact on firms' financial performance during the early years of the country's economic reform when market institutions were severely underdeveloped. In more recent years, however, when markets improve and become more established, business groups have started to hinder competitiveness and flexibility of member firms and consequently impair firms' financial performance (Keister, 2009; Carney, 2009). If business groups in China are no longer beneficial to member firms' financial performance and at the same time foster poorer CSR performance, then the validity of this type of economic structure in this country nowadays is questionable. Even if business groups remain helpful to member firms' financial success to some extent,¹ it is still debatable whether economic achievements shall be attained at the expense of weaker CSR performance.

Being the first study to investigate systemically BG firms' CSR performance in China, this paper makes several contributions to the literature. First, it adds to the CSR

¹ Guest and Sutherland (2010) report that member firms of 100 or so "national champion" trial groups perform relatively well financially.

literature that has developed rapidly worldwide during the past two to three decades (e.g., Matten & Moon, 2008; Moser & Martin, 2012; Di Giuli & Kostovetsky, 2014; Shabana, Buchholtz, & Carroll, 2017) and has started to grow in the China context during recent years (e.g., See, 2009; Marquis & Qian, 2014; Liao, Lin, & Zhang, 2016; Hofman, Moon, & Wu, 2017). Second, it enriches the literature on business groups (e.g., Hoshi, Kashyap, & Scharfstein, 1991; Keister, 1998; Shin & Park, 1999; Khanna & Yafeh, 2007; He et al., 2013), which so far has focused primarily on financial outcomes and barely examined the CSR area. And third, this study contributes to the research on China (e.g., Sutherland, 2003; Keister, 1998, 2000, 2009; Marquis et al., 2011; Huang & Rong, 2017; Yu, Fang, Sun, & Du, 2018), a country that has drawn increasing attention from scholars around the world due to its fast-growing economic significance and various controversial issues accompanying its economic development.

The remainder of the paper is organized as follows. In the next section, we describe the institutional background, review the relevant literature, and develop our hypotheses. Thereafter, we describe the data, sample, and research design. The subsequent section discusses the empirical results. Lastly, we summarize and conclude the study.

2. Institutional background, prior literature, and hypothesis development

2.1. Business groups and development of CSR in China

As the institutional environment greatly influences firms' involvement in CSR activities (Matten & Moon, 2008), we review the institutional background in China regarding business groups and the development of CSR. In China, forming and developing business groups (*qiye jituan*) are one component of the economic reforms that the government has carried out since the late 1970s. Policymakers studied Japan's *keiretsu* and Korea's *chaebol* in preparing for establishing similar groups in China. The Communist Party Central

Committee in 1978 first encouraged links among Chinese state-owned enterprises (SOEs) (Ma & Lu, 2005), and in the mid-1980s, the government started to allow firms to acquire ownership rights of each other in many industries (Dong & Hu, 1995; Keister, 1998). In 1986, the concept of “business group” appeared in the State Council’s official documents for the first time, indicating that the state was serious about developing this type of economic structure (Ma & Lu, 2005). Although business groups were initially built among SOEs, many entrepreneurs in the non-state sectors followed suit when they recognized various benefits of doing so.² By the end of 2008, there were nearly 3,000 large business groups across all the economic sectors in China,³ with total assets of around US\$ six trillion, revenues of approximately US\$ four trillion, profits of about US\$ 210.58 billion, and employees of nearly 33 million (National Bureau of Statistics of China (NBSC), 2009).⁴ In addition, over the years, the state has selected a subset of 100 or so large and institutionally advanced business groups as prestigious “national champion” trial groups aimed at being internationally competitive and leading China’s integration into the world economy (Sutherland, 2003; Guest & Sutherland, 2010). In the 2009 list of Global Fortune 500 Companies, 38 are Chinese firms affiliated with business groups (NBSC, 2009).

A business group can bring substantial benefits to its member firms. A major reason why groups are ubiquitous in emerging markets is that they substitute for imperfect markets and complement underdeveloped institutions (Khanna & Yafeh, 2007). For example, internal financing among member firms, a common characteristic of many business groups, appears

² Chinese domestic firms have three types of ownership structures: state, collective, and private. The collective is an ownership structure between state-owned and private.

³ “Large” business groups include the following: business groups owned by the central government, “national champion” trial groups approved by the State Council, business groups approved by the concerned departments of the State Council, business groups approved by the provincial governments and by the concerned departments of the provincial governments, and any other business groups with annual revenues plus end-of-year assets of at least 500 million Chinese *Yuan* (National Bureau of Statistics of China, 2009).

⁴ All monetary values are initially reported in Chinese *Yuan* by NBSC (2009). We convert them into US dollars based on the average exchange rate of year 2008, which is 0.1444 (Chinese *Yuan*: US dollar) and is obtained from the website of The People’s Bank of China (www.pbc.gov.cn).

to substitute for a formal financial system and provides firms with scarce capital that is unavailable from a fledgling market (Goto, 1982; Fan et al., 2016). Besides internal financing, prior studies (Nolan & Wang, 1999; Keister, 2000) suggest that Chinese business groups combine and distribute various resources among member firms, including management skills, research and development centers, brands, and sales services. In addition, connections among member firms improve interfirm information flow, reduce the uncertainty of their business environments, and enhance the collective power (economic, political, and social) of united actions – benefits that are particularly valuable to Chinese firms during the country’s economic transition (Keister, 1998).

Regarding firms’ social responsibility, global companies have started to issue CSR reports since the 1990s, and more than 50% of the 250 largest firms in the world have provided reports by 2005 and over 90% by 2011 (KPMG, 2005, 2011). In China, however, the first CSR report did not appear until 2006 when the government signaled that CSR was an appropriate and desired activity (Marquis et al., 2011). In that year, the Chinese Communist Party introduced the policy of a “Harmonious Society”, which was widely viewed as a shift from a model of economic growth at all cost to one of economic growth balanced with the need to tackle pressing societal and environmental problems (See, 2009). In the same year, the Sixth Plenary Session of the 16th Communist Party Committee Congress stated that the government would strive to “create a harmonious situation in which everyone promotes harmony, and focusing on enhancing a sense of social responsibility amongst citizens, enterprises and all kinds of organizations” (Sino-Swedish CSR Cooperation, 2009). The Shenzhen and Shanghai Stock Exchanges, China’s two stock markets owned by the state, issued guidelines in 2006 and 2008, respectively, to encourage listed companies to engage in socially responsible activities and issue CSR reports (Marquis & Qian, 2014). The year 2008 saw a big increase in CSR reports released by Chinese firms.

2.2. Hypothesis development

It is not clear, *ex ante*, whether firms affiliated with business groups would perform better or worse in CSR than stand-alone companies in China. On the one hand, it would be natural to expect that business groups act in accordance with the state's expressed interest in CSR since the state has been supportive of the groups. In addition, prior research (e.g., Belkaoui & Karpik, 1989; Reverte, 2009) finds that larger firms and firms with higher political or social visibility are more likely to involve in CSR activities. Business groups appear to be well situated in fulfilling firms' social responsibility given their relatively larger size, more prestigious social status, and stronger supporting systems for their members. Hence, member firms of business groups are likely to do a better job in CSR than other firms.

On the other hand, there are also reasons why BG firms may have weaker CSR performance than other firms. Acting in a socially responsible manner under the China context can be seen as a strategy for firms to pursue political legitimacy (Marquis & Qian, 2014). While customers and investors are often considered the most important constituencies for a western company, the government is positioned at the top of the CSR pyramid in China as a vital stakeholder of a firm (ChinaCSR.com, 2009). Governments usually control critical resources that affect firms' business environments and economic advantages. For example, a government can issue regulations that impact a particular industry, develop tax policies favoring certain regions, or grant import relief to protect firms from foreign competitions (Jones, 1991; Baron, 1995; Schuler & Rehbein, 1997). In China, the government is a powerful actor in the economy and controls firms' business opportunities through, among other things, "industry access control, new investment ratification, value-added tax differentiation, control of pace and pattern of privatization or decentralization, and government involvement in business activities such as material sourcing, distribution, and

marketing” (Luo, 2003, pp. 1319). Therefore, it is essential for firms in China to possess political legitimacy.

A BG firm likely enjoys stronger political legitimacy than a non-BG counterpart because the government supported and has continued to support business groups as part of its economic reform. Marquis and Qian (2014) argue that for firms with political legitimacy, they less need to use government encouraged activities to pursue the desired status and obtain valuable resources from the state. Their argument reveals an irony in how different types of firms in China respond to government signals: the government encourages all firms to be socially responsible, but this message will have a stronger effect on those that have a stronger need to enhance their political legitimacy. Compared with a BG firm, a stand-alone company has relatively lower political legitimacy and hence more need to engage in CSR activities in order to create goodwill with the government and gain resources that are already easier for a BG firm to obtain. Applying this view, one would expect a BG firm to be less diligent in conducting CSR activities.

Potential motivations for firms to engage in CSR activities include not only to gain political legitimacy from the government but also to attain legitimacy in general from the public. Legitimacy theory (Suchman, 1995; Chen & Roberts, 2010) proposes that a firm’s survival depends on its ability to meet expectations of the society in which it operates. Incongruence between the value system of a firm and that of the society jeopardizes the firm’s continued existence because civil society has the authority to permit or disallow an organization to exist and conduct business within that society (Cho, Laine, Roberts, & Rodrigue, 2015). In China, the public expectation of socially responsible organizations has grown increasingly strong in recent years due to widespread outrage towards deteriorating natural environment and various unethical corporate wrongdoings such as adulterated milk

and infant formula, unsafe toys, and toxic pork. Good CSR performance hence can help a firm gain legitimacy from the general public.

It is likely that stand-alone companies have a stronger need to pursue legitimacy than member firms of business groups because prior literature finds that BG firms are situated in a more supportive and less risky environment than other firms. For example, He et al. (2013) find that business groups in China help member firms overcome constraints in raising external capital for investment projects, presumably by pooling funds from different affiliates and reallocating them to the most profitable uses. Hoshi et al. (1991) and Shin and Park (1999) report similar findings with Japanese industrial groups and Korean chaebols, respectively. Business groups can also provide security to member firms by sharing risks through resource transferring from a well-performing affiliate to a poorly performing one in financial distress. He et al. (2013) examine Chinese business groups and provide evidence consistent with this view. The purposes for a business group to help member firms in adverse economic conditions include ensuring the whole group's long-run survival (Prowse, 1992) and establishing among members financial cross guarantees that serve as the basis for an internal capital market (Shin & Park, 1999). As a failing firm in a group can resort to funds from other members, this greatly reduces the firm's business risks and insulates it from the discipline of the market. If a BG firm faces less a threat of survival and fewer constraints of funding for further development, then it will have weaker motivations than a stand-alone company to engage in CSR activities and thus to gain legitimacy.

In summary, there are reasons to expect BG firms to perform better in CSR than stand-alone companies but there are also theories predicting the opposite. If the view of firm visibility and the notion of mutual-support between the state and business groups play a dominant role, then BG firms would have better CSR performance than other firms; if the theory of seeking legitimacy prevails, then BG firms would have poorer CSR performance.

Given the competing predictions, we state the hypothesis without a direction and test this issue empirically.

Hypothesis 1: The CSR performance is different between firms with business group affiliations (BG firms) and stand-alone companies (non-BG firms).

One conspicuous characteristic of Chinese firms is that many are owned by the state, commonly known as state-owned enterprises or SOEs. As SOEs and private firms face different incentives, it is necessary to examine the impact of business group affiliations on the two types of firms separately. A firm that possesses the dual-status of being a business group member and an SOE at the same time likely behaves differently in CSR.

SOEs have conflicting motivations to either actively engage in CSR or not treat it seriously. On the one hand, since the state is the largest and also controlling shareholder of SOEs, actions of the firms are to a great extent subject to governmental interference (Li & Zhang, 2010) and hence SOEs may perform better in CSR. As discussed previously, with the advocacy of a “Harmonious Society” by the government since 2006, promoting CSR has entered the political agenda in China (See, 2009). In January 2008, the State-owned Assets Supervision and Administration Commission (SASAC) issued CSR guidelines for SOEs, which state that fulfilling CSR is “an ardent expectation and requirement from the public” to SOEs.⁵ In China, the vast majority of SOE managers are directly appointed by their superior government officials, and thus politicians can significantly influence the behavior of SOEs via the managers whom they appointed (Mi & Wang, 2000). Bai and Xu (2005) find evidence that the Chinese government places non-financial objectives into the CEO contracts of some SOEs and hence executives of those firms are likely to put efforts to meet non-financial

⁵ The English version of the guidelines is available at <http://en.sasac.gov.cn/n1408035/c1477196/content.html>; the original Chinese version is available at <http://www.sasac.gov.cn/n2588035/n2588320/n2588335/c4260666/content.html>.

expectations of the government.⁶ To summarize, the notion of governmental interference or control suggests that SOEs would conform to the social and political goals of the state by acting as role models in CSR.

On the other hand, the view of political legitimacy predicts that SOEs have weak incentives to conduct CSR activities diligently. In China and many other emerging markets, where the rule of law is lacking, enforcement of existing rules is weak, and the legal and political infrastructure is underdeveloped, it can be difficult for firms to know how to properly interpret and effectively respond to signals from the government (Peng & Heath, 1996; He & Tian, 2008; Marquis et al., 2011). In our context, the signals are the CSR related guidelines and statements issued by the government. Li and Zhang (2007) argue that SOEs possess political legitimacy and are supported or even protected by the government agencies that have established them. Similarly, Marquis and Qian (2014) propose that SOEs have the most political legitimacy and thus the least need to use government encouraged activities to pursue advantageous positions and valuable resources from the state. Therefore, the perspective of political legitimacy predicts that SOEs would not treat CSR seriously.

As different theories lead to conflicting predictions about an SOE's performance in CSR, we refrain from making a directional hypothesis and empirically test the combined effect of the SOE status plus the business group affiliation. Our second hypothesis hence is stated as follows.

Hypothesis 2: Firms that both belong to business groups and are state-owned (BG-plus-SOE firms) have different CSR performance compared with other firms.

⁶ Bai and Xu (2005) do not explicitly discuss CSR as one of the potential non-financial objectives since the study was conducted before CSR gained popularity in China.

3. Data, sample, and research design

3.1. Data sources and sample construction

This study covers all Chinese firms that are listed on the Shanghai or Shenzhen stock exchanges and file CSR reports from 2009 to 2014. Data for the empirical tests come from multiple sources. We obtain firms' financial data from the China Stock Market & Accounting Research (CSMAR) database, the leading data source of Chinese stock markets and listed companies. Firms' CSR ratings are from the CSR rating agency RKS (also known by its Chinese name *RunLing*), the primary data source for research on CSR in China (e.g., Marquis & Qian, 2014; Lau et al., 2016; Liao et al., 2016). We manually collect data from companies' annual reports and websites to identify a firm's affiliation with a business group. Lastly, the National Bureau of Statistics of China provides the macro-level data concerning provincial development. After merging all the needed data, we obtain a sample of 3,035 firm-year observations during the sample period, which starts from 2009 because it is the earliest year that RKS' CSR ratings are available with detailed information.⁷

Table 1 presents our sample distribution by year. Panel A shows the distribution of firm-year observations from 2009 to 2014. The number of total observations is 3,035, which is very close (94%) to 3,230, the number of total CSR reports issued by listed firms during this period. We lose a small number of CSR report issuers due to missing data for some control variables. As our sample closely approximates the whole population of CSR report issuers during the six years, the statistics displayed in Table 1 are very similar to those for the population. We see that the number of CSR report issuers increases over time, from less than 400 in 2009 to more than 600 in 2014, consistent with the society's increasing concerns over CSR issues and also in line with China's growing number of publicly listed firms on the two stock exchanges. During the sample period, around 18% to 24% of all publicly traded firms

⁷ The first year when RKS' CSR ratings are available is 2008, but data of this year lacks detailed information of constituting components.

have released CSR reports. Panel B presents the distribution of business group affiliated firms (BG firms) in our sample. We see that BG firms account for a large proportion (approximately 76%) of the whole sample, indicating that business groups are a very popular organizational structure among Chinese listed firms that release CSR reports. Our statistic of 76% is close to what is reported by Claessens, Fan, and Lang (2006, pp.7, Table 1) about the average percentage (68%) of their sample firms affiliated with groups in nine East Asia countries/jurisdictions.⁸

[INSERT TABLE 1 HERE]

3.2. *Dependent variable*

The dependent variable in this study is firms' CSR performance. Following prior research (Marquis & Qian, 2014; Lau et al., 2016; Liao et al., 2016), we use CSR ratings from the RKS (www.rksratings.com) as the measure. The RKS is an independent and leading CSR rating agency in China, providing ratings primarily based on CSR reports issued by Chinese listed firms. Marquis and Qian (2014) have conducted a variety of tests that prove the validity of using the RKS' CSR ratings as the proxy for CSR performance. Compared with the CSR rating data analyzed in prior studies, the ratings currently available from the RKS are constructed under a slightly modified and refined system. Specifically, firms' CSR engagements are evaluated in four (instead of three in prior studies) dimensions: (1) *Macrocism*, which includes 16 evaluation items concerning a firm's overall CSR strategy and corporate governance. (2) *Content*, which encompasses 30 evaluation items regarding a firm's specific CSR activities, such as in the areas of environment protection, consumer rights, labor and human rights, and community development. (3) *Technique*, which covers 17 evaluation items about the disclosure quality of a firm's CSR report, such as comprehensiveness, comparability, consistency, and reliability of information disclosed in the

⁸ The nine East Asia countries/jurisdictions examined in Claessens et al. (2006) do not include mainland China.

report. (4) *Industry*, which is the newly added dimension containing industry-specific evaluation items. In total, there are 63 evaluation items plus a few industry-specific criteria. The full mark of the CSR rating is 100 points, with the weights of 30%, 45%, 15%, and 10% for the components of *Macrocosm*, *Content*, *Technique*, and *Industry*, respectively. We use the total score of a firm's CSR rating in year t (*CSR Score*) as the main measure of CSR performance and use the scores of the four individual components for robustness tests.

3.3. Independent variable

The independent variable in this study is the business group affiliation (*BGroup*). It is a dummy variable that equals one if a firm is affiliated with a business group in year t , and zero otherwise. Following prior studies (Xin, Zheng, & Yang, 2007; Dou, Zhang, & Lu, 2014), we code a firm as belonging to a business group ($BGroup = 1$) if the firm's largest shareholder owns other companies that generate revenues by providing non-financial products or services. A non-BG firm ($BGroup = 0$) is the one whose largest shareholder does not own other companies in the non-financial sectors. If a firm's largest shareholder is a government agency, this firm is also coded as a non-BG firm ($BGroup = 0$) because, in China, many firms are owned by some government agencies without being substantially connected.

Information about a firm's largest shareholder is manually collected from the firm's annual reports and website. Our coding of the BG firms is based on a firm's ownership connection, which likely is the most important link among a group of firms. We are mindful that some studies use different ways to identify BG firms, but we believe that our method best serves the purposes of this study. For example, He et al. (2013) rely on a survey conducted by the China Securities Regulatory Commission to determine a firm's group affiliation, but unfortunately, the survey data is not available after 2006. Fan et al. (2016) investigate capital flows in business groups and hence use pair observations composed of a

non-listed parent firm and its listed subsidiary firm. Guest and Sutherland (2010) focus on firms affiliated with 100 or so prestigious “national champion” trial groups and therefore examine a sample restricted to those particular groups.

3.4. Empirical model

To test the hypotheses, we use the following OLS regression model (with the firm and year subscripts omitted for brevity):

$$\begin{aligned}
 CSR\ Score = & b_0 + b_1 BGroup + b_2 Size + b_3 ROA + b_4 Cash + b_5 Leverage \\
 & + b_6 FirmAge + b_7 SOE + b_8 B-Size + b_9 B-Indep + b_{10} B-F-Exp \\
 & + b_{11} TMT-F-Exp + b_{12} Fem-CEO + b_{13} Own-Con + b_{14} Reg-Dep \\
 & + b_{15} Voluntary + b_{16} CrossList + b_{17} SH-Exch + \varepsilon
 \end{aligned} \tag{1}$$

The dependent variable is *CSR Score* and the independent variable is *BGroup* as discussed before. The control variables are various factors that the prior literature (Di Giuli & Kostovetsky, 2014; Marquis & Qian, 2014; Lau et al., 2016) finds to affect a firm’s CSR performance. These factors can be categorized into three groups: firm economic characteristics, corporate governance variables, and other relevant factors. We measure all control variables at the end of year $t-1$ unless specified otherwise. In all our regression tests, standard errors are clustered at the firm dimension.

The group of control variables regarding a firm’s economic characteristics includes the following factors: (1) Firm size (*Size*), computed as the logarithm of a firm’s total assets. A larger firm is likely to have better CSR performance. (2) Return on assets (*ROA*), which measures a firm’s financial performance and is computed as the firm’s net income divided by total assets. A firm with better financial performance is likely to have more resources for CSR activities and hence achieve better CSR performance. (3) *Cash*, computed as a firm’s cash scaled by total assets. A firm with abundant cash is more likely to invest in CSR

activities. (4) *Leverage*, computed as a firm's total debts scaled by total assets. A firm with a larger portion of debts is less likely to engage in CSR activities. (5) Firm age (*FirmAge*), the logarithm of the number of years since a firm was established. Marquis and Qian (2014) find that older firms in China have poorer CSR performance, presumably because older firms were founded when state control of the economy was more extensive and hence are less sensitive than younger firms to the CSR initiatives diffusing around the globe in recent years. (6) State-owned enterprise (*SOE*), which is a dummy variable equal to one if a firm is a state-owned enterprise and zero otherwise. Marquis and Qian (2014) argue that SOEs and privately owned firms are likely to respond differently to CSR initiatives encouraged by the government.

Lau et al. (2016) find that Chinese firms with stronger corporate governance systems have better CSR performance. Following their study, we control for a number of governance factors for each firm: (1) Board size (*B-Size*), measured by the total number of directors on the board. The size of the board affects the diversity of ideas and hence is likely to influence a firm's CSR performance. (2) Board independence (*B-Indep*), measured by the ratio of outside directors on the board. A more independent board likely advocates the firm to be socially responsible. (3) Board foreign experience (*B-F-Exp*), measured by the ratio of board members who have foreign experience. Foreign experience is defined as either educational or working experience gained overseas. (4) Top management team foreign experience (*TMT-F-Exp*), measured by the ratio of members in the top management team (TMT) who have foreign experience. Foreign experience is defined the same as before. Board and TMT members with foreign/international experience are expected to lead to better CSR performance. (5) Female CEO (*Fem-CEO*), a dummy variable equal to one if the CEO is female and zero otherwise. Di Giuli and Kostovetsky (2014) find that female CEOs contribute to better CSR performance, likely because they pay more attention to relationships

with stakeholders (Wang & Coffey, 1992; Zhang, Zhu, & Ding, 2013). (6) Ownership concentration (*Own-Con*), measured by the percentage of shares held by the largest shareholder. Lau et al. (2016) find that a concentrated ownership structure has a negative impact on the firm's CSR performance.

Some other factors that may affect a firm's CSR engagement include the following: (1) Regional development (*Reg-Dep*), measured by the gross domestic product (GDP) per capita of the province where a firm is headquartered. We obtain a province's GDP and population data from the National Bureau of Statistics of China. Marquis and Qian (2014) report that firms located in more developed regions perform better in CSR activities, likely due to more effective monitoring by government agencies in those regions and higher interest in CSR from people living in more wealthy areas. (2) Voluntary disclosure (*Voluntary*), a dummy variable equal to one if a firm voluntarily releases its CSR report without regulatory requirements, and zero otherwise. Specifically, the Shanghai Stock Exchange (SSE) mandates three types of listed firms (constituents of the SSE Corporate Governance Index, firms cross-listed overseas, and financial companies) to issue CSR reports, and the Shenzhen Stock Exchange (SZSE) requires constituents of the SZSE 100 Index to provide CSR reports. Those mandatory disclosers are coded zero for this variable. Voluntary and mandatory disclosers likely have different CSR performance (Marquis & Qian, 2014). (3) Cross-listing (*CrossList*), a dummy variable equal to one if a firm is cross-listed in Hong Kong Stock Exchange and zero otherwise. Firms cross-listed in Hong Kong may perform better in CSR due to strong monitoring of international investors. (4) Shanghai Stock Exchange (*SH-Exch*), a dummy variable equal to one if a firm is listed in the Shanghai Stock Exchange and zero if listed in the Shenzhen market. As firms traded in the two Chinese stock exchanges may be different, we control for any potential effect of this.

4. Results

4.1. Descriptive statistics

Table 2 provides descriptive statistics of regression variables for 3,035 firm-year observations from 2009 to 2014. We winsorize all the continuous variables at the top and bottom 1% to mitigate the impact of outliers. In the sample, the average *CSR Score* is around 39 points and 75% of the firm-year observations receive scores less than 45, which suggests that overall there is plenty of room for Chinese firms to make improvement in CSR given that the full *CSR Score* is 100 points. The average value of the dummy variable *BGroup* is 0.76, which indicates that 76% of the observations are affiliated with business groups, confirming what we see from Panel B of Table 1.

Regarding a firm's economic characteristics, on average a sample firm has total assets (unlogged *Size*) of ¥ 94,168 million (equivalent to US\$ 14,161 million approximately), achieves decent profitability with a return on assets (*ROA*) of 6.4%, holds 16% of its assets in cash, has a debts-to-assets ratio (*Leverage*) of 47%, and has been established for around 15 years (unlogged *FirmAge*). In addition, 66% of the observations are state-owned enterprises as shown by the average value of the dummy variable *SOE*. As for corporate governance, an average firm has a board size (*B-Size*) of about 10 members, 37% of its board members are independent (*B-Indep*), and 7% of the board members (*B-F-Exp*) and 4% of the members in the top management team (*TMT-F-Exp*) have foreign experience. Approximately 5% of all the firm-year observations have female CEOs (*Fem-CEO*). Compared with typical western companies, Chinese firms in this sample have highly concentrated ownership structures as the average value of *Own-Con* is 39%, which is the proportion of shares owned by the largest shareholder (usually the state). Some other interesting facts revealed by the descriptive statistics include: 32% of the observations voluntarily release CSR reports in the absence of regulatory requirements (*Voluntary*), a small proportion (9%) of firms are cross-listed in the

Hong Kong Stock Exchange that is open to international investors (*CrossList*), and more than half (62%) of the firms are listed in the Shanghai Stock Exchange (*SH-Exch*).

[INSERT TABLE 2 HERE]

Table 3 displays the Pearson correlation matrix for the regression variables. We observe a negative and statistically significant correlation between the business group affiliation (*BGroup*) and *CSR Score*, consistent with a potentially negative association between business groups and CSR performance. The matrix also shows that there are significant correlations among some independent variables and hence we calculate variance inflation factors (VIFs) to examine whether there is a potential multicollinearity problem. The maximum VIF is 2.77 (*Size*) and the mean VIF is 1.44. As all the VIFs are far less than 10, the conventional cut-off value (Ryan, 1997), we believe that multicollinearity is not a serious concern for the results.

[INSERT TABLE 3 HERE]

4.2. Univariate tests

Table 4 presents the results of the univariate tests that compare two groups of firms, one with business group affiliations and the other without (i.e., BG firms and non-BG firms). There are 736 observations of non-BG firms and 2,299 observations of BG firms. The table shows that the mean (median) *CSR Score* is around 41 (37) points for non-BG firms, higher than the mean (median) value of 38 (35) points for BG firms. The corresponding t-statistic and Wilcoxon z-statistic are 5.73 and 4.47, respectively, indicating that both the mean and median differences are statistically significant at the 1% level. Examining the univariate test results of the four components of the total score (i.e., *M Comp*, *C Comp*, *T Comp*, and *I Comp*), we see that for almost all the pairs of comparisons, non-BG firms receive higher scores than BG firms and the differences are statistically significant. Overall, the results of

the univariate tests provide initial evidence that BG firms have lower CSR performance than non-BG firms.

Regarding comparisons of firm characteristics, Table 4 shows that the two groups of firms are different in many aspects. For example, BG firms generally are larger and older, hold a smaller proportion of their assets in cash, are more likely to be SOEs, and are less likely to issue CSR reports voluntarily. These differences highlight the importance of controlling various firm characteristics in multivariate regression analysis.

[INSERT TABLE 4 HERE]

4.3. Multivariate regression tests

Table 5 displays the regression results of Hypothesis 1 regarding the impact of business groups on firms' CSR performance. The results are presented in four columns in a progressive manner, and the dependent variable is *CSR Score* in all four columns. Column 1 contains only the independent variable *BGroup*; Column 2 adds firms' economic characteristics, such as size, ROA, cash holdings, and leverage; Column 3 further adds firms' corporate governance variables, such as board size, board independence, and foreign experience of board members; Column 4 presents the most complete model that contains four more variables controlling for some other relevant factors, such as regional development, voluntary disclosure, and cross-listing. In Column 4, we also include the year and industry fixed effects to control for possible impacts of time and industry on a firm's CSR performance. Industry categories are based on the classification by China Securities Regulatory Commission (CSRC).

The table shows that in Columns 2 to 4, the estimated coefficient of the independent variable *BGroup* is negative and statistically significant at the 1% level. (The significance level is weaker at 5% in Column 1, which does not concern us since the regression here does

not include any control variables.) In the most complete regression model presented in Column 4, the coefficient of *BGroup* is -2.575 , meaning that on average, a firm with a business group affiliation receives a CSR rating that is 2.575 points lower than that received by a stand-alone company. Given the mean (median) *CSR Score* of 38.878 (35.480) as shown in Table 2, a score lower by 2.575 suggests that all else being equal, a BG firm underperforms a non-BG counterpart in CSR by 6.6% (7.3%), an economically significant difference. Regarding the control variables, the table shows that a larger firm size (*Size*), higher profitability (*ROA*), a larger board size (*B-Size*), a higher percentage of board members with foreign experience (*B-F-Exp*), and better regional development have positive effects on a firm's CSR performance, while operating with a higher debts-to-assets ratio (*Leverage*) has a negative impact on CSR activities.

Overall, the regression results support Hypothesis 1 that BG and non-BG firms have different CSR performance. Moreover, the results indicate that non-BG firms perform better than BG firms, consistent with the view that firms affiliated with business groups do not have strong incentives to perform well in CSR as encouraged by the government and urged by the general public because those firms already possess stronger political legitimacy and operate in more secure business environments compared with stand-alone companies.

[INSERT TABLE 5 HERE]

To investigate whether the results in Table 5 are different among different dimensions of CSR performance, we conduct further tests to examine the effects of business groups on four aspects of firms' CSR engagement. Table 6 presents the regression results where the dependent variables are the four components of the total CSR score: *M Comp* (Column 1), *C Comp* (Column 2), *T Comp* (Column 3), and *I Comp* (Column 4), representing the *Macrocosm*, *Content*, *Technique*, and *Industry* components, respectively. All the regression models are the most complete version as presented in Column 4 of Table 5, except that there

is no industry fixed effect in the last column because the dependent variable is *I Comp* (i.e., the industry component of CSR ratings), which already considers industry differences. Table 6 shows that across all the four columns, the independent variable *BGroup* loads with a negative coefficient that is statistically significant at the 1% level. Therefore, BG firms perform poorer in CSR than non-BG firms not only at the aggregate level but also in all the four individual aspects.

[INSERT TABLE 6 HERE]

To test Hypothesis 2 concerning the combined effect of the business group affiliation plus the SOE status, we divide the sample into two subsamples, one of SOEs and the other of non-SOEs. We run regressions separately with the two subsamples using the most complete model except that the control variable *SOE* is removed. Table 7 displays the results.

Column 1 presents the result of the non-SOE subsample with 1,022 observations. Here the dependent variable is *CSR Score*. This column shows that the estimated coefficient of *BGroup* is not statistically significant, suggesting that among non-state-owned firms, business group affiliations do not make a difference in CSR performance. Column 2 displays the result of the SOE subsample with 2,013 observations. The dependent variable again is *CSR Score*. This column shows that *BGroup* loads with a negative and statistically significant coefficient -2.830 , indicating that among state-owned firms, business group affiliations are negatively associated with CSR performance. To find out whether the result is different for different dimensions of CSR performance, we repeat the regression with the SOE subsample and use the four components of CSR scores as the dependent variables. Columns 3, 4, 5, and 6 present the regression results where the dependent variables are *M Comp*, *C Comp*, *T Comp*, and *I Comp*, respectively. Similar to what is displayed in Column 2, *BGroup* continues to load with a negative and statistically significant coefficient in each of Columns 3 to 6. Overall, the results provide supporting evidence that the effect of business group affiliations

differs between SOEs and non-SOEs. It seems that being a business group member alone does not provide strong enough legitimacy to “shield” a firm from seriously engaging in CSR activities, but a business group membership combined with an SOE status provides strong “protection” for a firm to have poorer CSR performance.

[INSERT TABLE 7 HERE]

5. Summary and conclusion

This study investigates the impact of firms’ business group affiliations on their CSR performance. Using a Chinese sample of 3,035 firm-year observations from 2009 to 2014, we find that non-BG firms perform better than BG firms in CSR. This finding applies to not only the overall CSR performance measured by the total CSR score but also four dimensions of CSR performance measured by four components of the total score. Furthermore, after the sample is divided into SOEs and non-SOEs, it reveals that our finding continues to hold in the subsample of SOEs but not in the subsample of non-SOEs.

Overall, the results suggest that a firm’s dual-status of being a business group member and an SOE at the same time leads to poorer performance in CSR. Our findings are consistent with the view that CSR engagement is a strategy for firms to pursue political legitimacy from the government and seek legitimacy in general from the public. The business group affiliation and the SOE status together afford political legitimacy to the firm and reduce its need to pursue legitimacy in general due to the relatively secure environment provided by the group. This study has implications for the general public and policymakers in China who have been supportive of business groups during the country’s economic reform.

This study has some limitations. First, it is conducted with Chinese publicly traded firms that have issued CSR reports, and hence the findings may not be generalizable to other firms that are not listed on the stock markets or have not issued CSR reports. Second, the sample firms issue CSR reports either mandatorily or voluntarily, and the different

motivations are likely to be correlated with firms' different CSR performance. Our control variable *Voluntary* is coded in a way that controls for mandatory disclosure required by regulations of the stock markets. However, it is possible that a business group also imposes some internal rules mandating its member firms to disclose CSR reports. As the internal rules are not public information and usually not accessible to researchers, we acknowledge that *Voluntary* in this study, as well as the similar variable in other related studies, contains noise. With these caveats, our paper contributes to the literature by being the first large-sample study that provides systemic evidence revealing the negative effect of business group affiliations on firms' CSR performance in China.

Appendix. Variable definitions

Variable	Definition
Dependent variable: CSR Performance	
<i>CSR Score</i>	The total score of a firm's CSR rating in year t . It ranges from 0 to 100 and is the sum of four component scores (<i>Macrocosm</i> , <i>Content</i> , <i>Technique</i> , and <i>Industry</i>). The total score measures the firm's overall CSR performance.
<i>M Comp</i>	The <i>Macrocosm</i> component of a firm's CSR rating in year t . It measures the firm's overall CSR strategy and corporate governance.
<i>C Comp</i>	The <i>Content</i> component of a firm's CSR rating in year t . It measures the firm's specific CSR activities, such as in the areas of environment protection, consumer rights, labor and human rights, and community development.
<i>T Comp</i>	The <i>Technique</i> component of a firm's CSR rating in year t . It measures the disclosure quality of the firm's CSR report, such as comprehensiveness, comparability, consistency, and reliability of information disclosed in the report.
<i>I Comp</i>	The <i>Industry</i> component of a firm's CSR rating in year t . It measures the firm's industry-specific CSR activities.
Independent variable: Business Group	
<i>BGroup</i>	A dummy variable that equals one if a firm is affiliated with a business group in year t , and zero otherwise.
Control variables (measured at the end of year $t-1$ unless specified otherwise)	
<i>Firm economic characteristics:</i>	
<i>Size</i>	Firm size, computed as the logarithm of a firm's total assets.
<i>ROA</i>	Return on assets, computed as a firm's net income divided by total assets.
<i>Cash</i>	A firm's cash scaled by total assets.
<i>Leverage</i>	A firm's total debts scaled by total assets.
<i>FirmAge</i>	Firm age, the logarithm of the number of years since a firm was established.
<i>SOE</i>	A dummy variable to indicate a state-owned enterprise (SOE) versus a private firm. It equals one if a firm is an SOE and zero otherwise.
<i>Corporate governance:</i>	
<i>B-Size</i>	Board size, measured by the total number of directors on the board.
<i>B-Indep</i>	Board independence, measured by the ratio of outside directors on the board.
<i>B-F-Exp</i>	Board foreign experience, measured by the ratio of board members who have foreign experience. Foreign experience is defined as either

educational or working experience gained overseas.

<i>TMT-F-Exp</i>	Top management team (TMT) foreign experience, measured by the ratio of members in the TMT who have foreign experience. Foreign experience is defined as either educational or working experience gained overseas.
<i>Fem-CEO</i>	Female CEO. It is a dummy variable equal to one if the CEO is female and zero otherwise.
<i>Own-Con</i>	Ownership concentration, measured by the percentage of shares held by the largest shareholder.
<i>Other relevant factors:</i>	
<i>Reg-Dep</i>	Regional development, measured by the gross domestic product (GDP) per capita of the province where a firm is headquartered.
<i>Voluntary</i>	Voluntary disclosure, a dummy variable equal to one if a firm voluntarily releases a CSR report without being required to do so by regulations.
<i>CrossList</i>	Cross-listing, a dummy variable equal to one if a firm is cross-listed in the Hong Kong Stock Exchange and zero otherwise.
<i>SH-Exch</i>	Shanghai Stock Exchange, a dummy variable equal to one if a firm is listed in the Shanghai Stock Exchange and zero if listed in the Shenzhen market.

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Table 1. Sample description

Panel A: Distribution of firm-year observations

Year	No. of firm-year obs.	Percent	No. of all listed firms	% of all listed firms
2009	324	10.68%	1,759	18.42%
2010	425	14.00%	2,090	20.33%
2011	487	16.05%	2,390	20.38%
2012	550	18.12%	2,563	21.46%
2013	613	20.20%	2,576	23.80%
2014	636	20.96%	2,676	23.77%
Total	3,035	100.00%		

Panel B: Distribution of business group affiliated firms (BG firms) in the sample

Year	No. of BG firm-year obs.	Percent	% of the whole sample	% of all listed firms
2009	256	11.14%	79.01%	14.55%
2010	335	14.57%	78.82%	16.03%
2011	369	16.05%	75.77%	15.44%
2012	414	18.01%	75.27%	16.15%
2013	453	19.70%	73.90%	17.59%
2014	472	20.53%	74.21%	17.64%
Total	2,299	100.00%	75.75%	

This table presents the sample distribution by year from 2009 to 2014. Firms included in the sample are listed in Shanghai or Shenzhen Stock Exchanges in China and issue CSR reports during the sample period.

Table 2. Descriptive statistics

Variables	Mean	Standard deviation	p25	Median	p75
<i>CSR Score</i>	38.878	13.267	29.780	35.480	44.570
<i>M Comp</i>	12.770	4.818	9.140	12.070	15.470
<i>C Comp</i>	17.726	6.111	13.540	16.520	20.530
<i>T Comp</i>	6.656	2.098	5.400	5.960	7.160
<i>I Comp</i>	1.746	1.787	0.390	1.250	2.500
<i>BGroup</i>	0.757	0.429	1.000	1.000	1.000
<i>Size (Unlogged, ¥MM)</i>	94,168.040	438,517.300	2,496.112	6,350.492	18,793.410
<i>ROA</i>	0.064	0.070	0.019	0.047	0.093
<i>Cash</i>	0.161	0.140	0.062	0.122	0.216
<i>Leverage</i>	0.473	0.219	0.317	0.482	0.633
<i>FirmAge (Unlogged)</i>	14.742	5.021	12.000	15.000	18.000
<i>SOE</i>	0.663	0.473	0.000	1.000	1.000
<i>B-Size</i>	9.723	2.383	9.000	9.000	11.000
<i>B-Indep</i>	0.371	0.057	0.333	0.353	0.400
<i>B-F-Exp</i>	0.065	0.107	0.000	0.000	0.111
<i>TMT-F-Exp</i>	0.038	0.096	0.000	0.000	0.000
<i>Fem-CEO</i>	0.045	0.208	0.000	0.000	0.000
<i>Own-Con</i>	0.388	0.165	0.247	0.387	0.511
<i>Reg-Dep (¥10K)</i>	5.542	2.281	3.579	5.264	7.194
<i>Voluntary</i>	0.320	0.467	0.000	0.000	1.000
<i>CrossList</i>	0.088	0.284	0.000	0.000	0.000
<i>SH-Exch</i>	0.619	0.486	0.000	1.000	1.000

This table provides descriptive statistics of the regression variables for 3,035 firm-year observations from 2009 to 2014. All the continuous variables are winsorized at the top and bottom 1% to mitigate the impact of outliers. See the Appendix for the variable definitions.

Table 3. Pearson correlation matrix

(1) <i>CSR Score</i>	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
(2) <i>BGroup</i>	-0.10 (0.00)																
(3) <i>Size</i>	0.58 (0.00)	0.02 (0.26)															
(4) <i>ROA</i>	-0.02 (0.39)	0.01 (0.48)	-0.15 (0.00)														
(5) <i>Cash</i>	-0.10 (0.00)	-0.13 (0.00)	-0.24 (0.00)	0.18 (0.00)													
(6) <i>Leverage</i>	0.20 (0.00)	0.02 (0.27)	0.54 (0.00)	-0.41 (0.00)	-0.30 (0.00)												
(7) <i>FirmAge</i>	-0.04 (0.02)	0.07 (0.00)	0.02 (0.34)	-0.02 (0.28)	-0.16 (0.00)	0.11 (0.00)											
(8) <i>SOE</i>	0.12 (0.00)	0.29 (0.00)	0.26 (0.00)	-0.10 (0.00)	-0.15 (0.00)	0.14 (0.00)	0.07 (0.00)										
(9) <i>B-Size</i>	0.35 (0.00)	-0.04 (0.01)	0.48 (0.00)	-0.06 (0.00)	-0.09 (0.00)	0.25 (0.00)	0.04 (0.03)	0.17 (0.00)									
(10) <i>B-Indep</i>	0.02 (0.21)	0.00 (0.88)	0.06 (0.00)	-0.02 (0.34)	-0.04 (0.02)	0.00 (0.81)	-0.11 (0.00)	-0.02 (0.25)	-0.27 (0.00)								
(11) <i>B-F-Exp</i>	0.36 (0.00)	-0.05 (0.00)	0.34 (0.00)	0.01 (0.69)	-0.04 (0.02)	0.07 (0.00)	-0.09 (0.00)	0.00 (0.83)	0.20 (0.00)	0.03 (0.16)							
(12) <i>TMT-F-Exp</i>	0.26 (0.00)	-0.06 (0.00)	0.26 (0.00)	-0.02 (0.29)	0.02 (0.34)	0.08 (0.00)	-0.08 (0.00)	-0.01 (0.78)	0.13 (0.00)	0.01 (0.44)	0.52 (0.00)						
(13) <i>Fem-CEO</i>	-0.03 (0.17)	-0.04 (0.03)	-0.06 (0.00)	0.08 (0.00)	-0.01 (0.53)	-0.01 (0.54)	0.06 (0.00)	-0.12 (0.00)	-0.06 (0.00)	-0.03 (0.14)	-0.01 (0.56)	0.00 (0.93)					
(14) <i>Own-Con</i>	0.11 (0.00)	0.29 (0.00)	0.19 (0.00)	0.08 (0.00)	-0.08 (0.00)	-0.03 (0.07)	-0.21 (0.00)	0.28 (0.00)	-0.05 (0.00)	0.09 (0.00)	0.02 (0.26)	0.04 (0.04)	-0.03 (0.06)				
(15) <i>Reg-Dep</i>	0.26 (0.00)	-0.05 (0.01)	0.23 (0.00)	-0.02 (0.40)	-0.04 (0.02)	0.03 (0.12)	0.02 (0.35)	0.05 (0.01)	0.03 (0.11)	0.06 (0.00)	0.19 (0.00)	0.16 (0.00)	-0.06 (0.00)	0.15 (0.00)			
(16) <i>Voluntary</i>	-0.13 (0.00)	-0.17 (0.00)	-0.41 (0.00)	-0.03 (0.14)	0.12 (0.00)	-0.21 (0.00)	-0.08 (0.00)	-0.33 (0.00)	-0.23 (0.00)	0.00 (0.98)	-0.06 (0.00)	-0.06 (0.00)	0.03 (0.13)	-0.09 (0.00)	-0.05 (0.00)		

(17) <i>CrossList</i>	0.32	-0.01	0.45	-0.06	-0.12	0.14	-0.10	0.17	0.25	0.07	0.35	0.24	-0.06	0.12	0.16	-0.14	
	(0.00)	(0.45)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	
(18) <i>SH-Exch</i>	0.05	0.16	0.22	-0.09	-0.20	0.16	0.05	0.27	0.11	-0.03	-0.03	0.00	-0.02	0.13	0.19	-0.45	0.19
	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.15)	(0.09)	(0.98)	(0.30)	(0.00)	(0.00)	(0.00)	(0.00)

This table displays the Pearson correlation matrix of the regression variables for 3,035 firm-year observations from 2009 to 2014. The p -values are presented in parentheses beneath the corresponding correlation coefficients. See the Appendix for the variable definitions.

Table 4. Univariate tests

	Non-BG Firms (N=736)		BG Firms (N=2,299)		Difference (Non-BG vs. BG)	
	Mean	Median	Mean	Median	t-stats	z-stats
<i>CSR Score</i>	41.304	36.950	38.101	35.120	5.73***	4.47***
<i>M Comp</i>	13.695	12.890	12.474	11.720	6.02***	5.98***
<i>C Comp</i>	18.609	16.880	17.443	16.500	4.52***	2.88***
<i>T Comp</i>	7.040	6.025	6.533	5.920	5.73***	3.03***
<i>I Comp</i>	2.011	1.250	1.661	1.250	4.63***	2.34**
<i>Size</i>	22.751	22.084	22.831	22.662	-1.12	-6.08***
<i>ROA</i>	0.062	0.048	0.064	0.047	-0.70	0.34
<i>Cash</i>	0.192	0.130	0.151	0.119	7.07***	3.59***
<i>Leverage</i>	0.465	0.459	0.475	0.488	-1.11	-2.01**
<i>FirmAge (Unlogged)</i>	14.446	14.000	14.833	15.000	-1.87*	-2.18**
<i>SOE</i>	0.418	0.000	0.742	1.000	-16.88***	-16.14***
<i>B-Size</i>	9.909	9.000	9.663	9.000	2.44**	-1.18
<i>B-Indep</i>	0.372	0.333	0.371	0.357	0.15	0.07
<i>B-F-Exp</i>	0.075	0.000	0.062	0.000	2.91**	2.86**
<i>TMT-F-Exp</i>	0.048	0.000	0.035	0.000	3.34***	5.44***
<i>Fem-CEO</i>	0.060	0.000	0.040	0.000	2.20**	2.20**
<i>Own-Con</i>	0.304	0.261	0.414	0.415	-16.39***	-16.26***
<i>Reg-Dep</i>	5.743	5.795	5.477	5.257	2.76***	3.17***
<i>Voluntary</i>	0.461	0.000	0.275	0.000	9.54***	9.40***
<i>CrossList</i>	0.095	0.000	0.086	0.000	0.75	0.75
<i>SH-Exch</i>	0.482	0.000	0.662	1.000	-8.87***	-8.76***

This table presents the results of the univariate tests that compare two groups of firms, one with business group affiliations and the other without (i.e., BG firms and non-BG firms). The full sample consists of 3,035 firm-year observations from 2009 to 2014. The t-test is used to test the difference of means, and the Wilcoxon z-test is used to test the difference of medians. All the continuous variables are winsorized at the top and bottom 1% to mitigate the impact of outliers. The superscripts ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. See the Appendix for the variable definitions.

Table 5. Regression results about the impact of business groups on CSR performance

VARIABLES	(1) <i>CSR Score</i>	(2) <i>CSR Score</i>	(3) <i>CSR Score</i>	(4) <i>CSR Score</i>
<i>BGroup</i>	-3.202** (-2.43)	-3.593*** (-3.79)	-3.429*** (-3.80)	-2.575*** (-2.79)
<i>Size</i>		5.236*** (17.66)	4.336*** (12.24)	3.958*** (10.07)
<i>ROA</i>		5.421 (1.19)	4.727 (1.03)	9.083** (2.09)
<i>Cash</i>		-0.952 (-0.41)	-0.995 (-0.43)	-1.892 (-0.75)
<i>Leverage</i>		-8.705*** (-4.37)	-7.088*** (-3.68)	-4.356** (-2.14)
<i>FrimAge</i>		-1.219 (-1.13)	-0.676 (-0.63)	-2.029* (-1.81)
<i>SOE</i>		0.281 (0.33)	0.432 (0.50)	1.140 (1.28)
<i>B-Size</i>			0.419* (1.95)	0.549** (2.58)
<i>B-Indep</i>			1.191 (0.20)	0.995 (0.18)
<i>B-F-Exp</i>			16.345*** (3.40)	13.731*** (2.64)
<i>TMT-F-Exp</i>			5.763 (1.21)	4.192 (0.79)
<i>Fem-CEO</i>			0.664 (0.40)	1.769 (1.09)
<i>Own-Con</i>			1.974 (0.82)	0.894 (0.37)
<i>Reg-Dep</i>				0.357* (1.82)
<i>Voluntary</i>				1.143 (1.57)
<i>CrossList</i>				0.983 (0.52)
<i>SH-Exch</i>				-1.272 (-1.51)
Constant	41.304*** (34.34)	-70.821*** (-10.49)	-59.277*** (-8.72)	-60.913*** (-7.29)
Observations	3,035	3,035	3,035	3,035
Adj. R ²	0.010	0.370	0.394	0.455
Year Fixed	No	No	No	Yes
Industry Fixed	No	No	No	Yes

This table presents the regression results of Hypothesis 1 regarding the impact of business groups on firms' CSR performance. The dependent variable *CSR Score* is a firm's CSR rating in year *t*. It ranges from 0 to 100 and is

the sum of four component scores. *BGroup* is a dummy variable that equals one if a firm is affiliated with a business group in year t , and zero otherwise. See the Appendix for the definitions of the other variables. In all the regressions, standard errors are clustered at the firm dimension. In Column 4, year and industry fixed effects are included. The t -statistics are reported in parentheses. The superscripts ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

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Table 6. Regression results about the impact of business groups on four dimensions of CSR performance

VARIABLES	(1) <i>M Comp</i>	(2) <i>C Comp</i>	(3) <i>T Comp</i>	(4) <i>I Comp</i>
<i>BGroup</i>	-0.840*** (-2.87)	-1.198*** (-2.66)	-0.421*** (-2.82)	-0.333*** (-3.25)
<i>Size</i>	1.269*** (9.64)	1.805*** (9.72)	0.583*** (9.00)	0.426*** (10.28)
<i>ROA</i>	0.870 (0.56)	6.342*** (3.04)	1.509** (2.32)	0.390 (0.83)
<i>Cash</i>	-0.289 (-0.34)	-0.897 (-0.78)	-0.844* (-1.95)	0.403 (1.47)
<i>Leverage</i>	-1.716** (-2.44)	-1.704* (-1.78)	-0.668** (-2.08)	-0.490** (-2.36)
<i>FirmAge</i>	-0.645* (-1.68)	-0.826 (-1.58)	-0.527*** (-2.70)	-0.148 (-1.26)
<i>SOE</i>	0.361 (1.22)	0.612 (1.42)	-0.006 (-0.04)	0.239** (2.35)
<i>B-Size</i>	0.177** (2.45)	0.252*** (2.59)	0.091** (2.46)	0.074*** (3.17)
<i>B-Indep</i>	0.666 (0.34)	-0.080 (-0.03)	-0.087 (-0.10)	0.500 (0.72)
<i>B-F-Exp</i>	4.005** (2.36)	7.123*** (2.89)	1.674** (2.13)	0.921* (1.71)
<i>TMT-F-Exp</i>	1.751 (0.93)	1.554 (0.64)	0.530 (0.67)	0.882* (1.73)
<i>Fem-CEO</i>	0.828 (1.51)	0.669 (0.85)	0.187 (0.80)	-0.029 (-0.17)
<i>Own-Con</i>	0.195 (0.24)	0.660 (0.58)	-0.048 (-0.13)	-0.088 (-0.32)
<i>Reg-Dep</i>	0.122* (1.80)	0.133 (1.44)	0.076** (2.48)	0.020 (0.97)
<i>Voluntary</i>	0.453* (1.76)	0.486 (1.39)	0.324*** (2.68)	-0.026 (-0.27)
<i>CrossList</i>	0.229 (0.36)	0.361 (0.43)	0.412 (1.28)	0.077 (0.40)
<i>SH-Exch</i>	-0.717** (-2.46)	-0.512 (-1.31)	0.021 (0.16)	0.083 (0.83)
Constant	-20.969*** (-7.44)	-25.416*** (-6.43)	-6.584*** (-4.67)	-10.067*** (-11.65)
Observations	3,035	3,035	3,035	3,035
Adj. R ²	0.484	0.392	0.386	0.422
Year Fixed	Yes	Yes	Yes	Yes
Industry Fixed	Yes	Yes	Yes	No

This table presents the regression results concerning the impact of business groups on four dimensions of firms' CSR performance. The dependent variables are the four components of the total CSR score: *M Comp* (Column 1), *C Comp* (Column 2), *T Comp* (Column 3), and *I Comp* (Column 4), representing the *Macrocosm*, *Content*, *Technique*, and *Industry* components, respectively. *BGroup* is a dummy variable that equals one if a firm is affiliated with a business group in year t , and zero otherwise. See the Appendix for the definitions of the other variables. In regressions (1) to (3), year and industry fixed effects are included. In regression (4), only the year fixed effect is included because the dependent variable *I Comp* already considers industry differences. Standard errors are clustered at the firm dimension in all regressions. The t -statistics are reported in parentheses. The superscripts ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

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Table 7. Regression results about the impact of business groups on firms' CSR performance with the SOE and the non-SOE subsamples

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	Non-SOE <i>CSR Score</i>	SOE <i>CSR Score</i>	SOE <i>M Comp</i>	SOE <i>C Comp</i>	SOE <i>T Comp</i>	SOE <i>I Comp</i>
<i>BGroup</i>	-1.276 (-1.10)	-2.830** (-2.01)	-0.861** (-1.98)	-1.299* (-1.91)	-0.547** (-2.33)	-0.353** (-2.47)
<i>Size</i>	2.961*** (4.46)	4.231*** (8.83)	1.374*** (8.62)	1.895*** (8.26)	0.658*** (8.55)	0.423*** (8.69)
<i>ROA</i>	12.442** (2.00)	8.117 (1.47)	0.286 (0.14)	5.302** (1.99)	1.917** (2.34)	0.531 (0.92)
<i>Cash</i>	-3.494 (-1.04)	-2.449 (-0.70)	-0.493 (-0.40)	-1.068 (-0.68)	-1.012* (-1.76)	0.181 (0.49)
<i>Leverage</i>	-3.096 (-1.10)	-4.339* (-1.66)	-1.854** (-2.04)	-1.689 (-1.38)	-0.591 (-1.42)	-0.510** (-2.00)
<i>FirmAge</i>	-2.590* (-1.79)	-0.976 (-0.61)	-0.366 (-0.68)	-0.256 (-0.34)	-0.416 (-1.48)	-0.131 (-0.83)
<i>B-Size</i>	0.401 (1.28)	0.615** (2.32)	0.196** (2.19)	0.274** (2.30)	0.098** (2.16)	0.072** (2.54)
<i>B-Indep</i>	-4.717 (-0.54)	1.833 (0.25)	0.951 (0.39)	0.725 (0.21)	-0.157 (-0.13)	0.229 (0.27)
<i>B-F-Exp</i>	4.433 (0.74)	18.181*** (2.72)	5.692*** (2.63)	8.882*** (2.80)	2.220** (2.19)	1.261* (1.82)
<i>TMT-F-Exp</i>	10.118 (1.29)	1.494 (0.24)	0.729 (0.33)	0.597 (0.21)	-0.105 (-0.12)	0.915 (1.58)
<i>Fem-CEO</i>	-1.918 (-1.47)	5.650* (1.80)	2.295** (2.24)	2.353 (1.56)	0.687 (1.59)	0.076 (0.24)
<i>Own-Con</i>	2.596 (0.74)	0.051 (0.02)	-0.050 (-0.05)	0.346 (0.23)	-0.349 (-0.70)	-0.017 (-0.05)
<i>Reg-Dep</i>	0.219 (0.55)	0.348 (1.54)	0.119 (1.51)	0.135 (1.27)	0.070** (2.02)	0.010 (0.45)
<i>Voluntary</i>	-0.077 (-0.06)	1.727* (1.95)	0.577* (1.77)	0.777* (1.84)	0.454*** (2.97)	-0.033 (-0.28)
<i>CrossList</i>	10.341** (2.03)	-0.681 (-0.35)	-0.299 (-0.45)	-0.432 (-0.51)	0.132 (0.40)	-0.120 (-0.62)
<i>SH-Exch</i>	-3.130** (-2.35)	-0.088 (-0.08)	-0.434 (-1.17)	0.102 (0.21)	0.219 (1.30)	0.154 (1.29)
Constant	-29.792** (-2.11)	-61.974*** (-6.09)	-21.931*** (-6.44)	-24.401*** (-5.00)	-8.264*** (-5.11)	-9.843*** (-8.98)
Observations	1,022	2,013	2,013	2,013	2,013	2,013
Adj. R ²	0.457	0.460	0.485	0.393	0.421	0.436
Year Fixed	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed	Yes	Yes	Yes	Yes	Yes	No

This table presents the regression results concerning the impact of business groups on firms' CSR performance with the SOE and the non-SOE subsamples. Columns 1 and 2 present the results on non-SOEs and SOEs, respectively, with *CSR Score* as the dependent variable. Columns 3 to 6 present the results on SOEs with the dependent variable being the different component of CSR scores: *M Comp* (Column 3), *C Comp* (Column 4), *T Comp* (Column 5), and *I Comp* (Column 6). *BGroup* is a dummy variable that equals one if a firm is affiliated with a business group in year t , and zero otherwise. See the Appendix for the definitions of the other variables. In regressions (1) to (5), year and industry fixed effects are included. In regression (6), only the year fixed effect is included because the dependent variable *I Comp* already considers industry differences. Standard errors are clustered at the firm dimension in all regressions. The t -statistics are reported in parentheses. The superscripts ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

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Highlights

- We study the impact of Chinese firms' business group affiliations on their CSR performance
- We find firms with business group affiliations have weaker performance in CSR
- The finding holds in the subsample of state-owned enterprises (SOEs) only
- Results consistent with the view that CSR engagement is a strategy to pursue legitimacy

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