

Corporate social responsibility disclosure and corporate governance: empirical insights on neo-institutional framework from China

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Abstract This study delves into an interesting nexus of corporate governance mechanism and corporate social responsibility (CSR) disclosure in the Chinese listed firms. This research edifies the prevailing literature by integration of neo-institutional theory and empirical examination of the impact of ownership structure and board characteristics on the “CSR disclosure score” for a longitudinal data of 1166 non-financial firms listed on Chinese stock exchanges for 8 years from 2008 to 2015. The empirical results based on panel data-generalised least squares estimations divulge that state ownership and block ownership are negative predictors of the CSR disclosure, while institutional ownership, board size and board composition positively affect CSR disclosure in Chinese listed firms. The results fail to find a significant impact of CEO duality on CSR disclosure. The empirical findings of this study suggest practical guidelines to policymakers, government and corporations in their drive against the CSR concerns.

Keywords CSR disclosure · Corporate governance · Neo-institutional theory · China

Introduction

Corporate social responsibility (CSR) disclosure has gained substantial prominence in the academic scholarship in the twenty-first century (Aguilera et al. 2006, 2007; Jo and Harjoto 2012; McWilliams and Siegel 2001; Reverte 2009). It is delineated as “actions that appear to further some social good, beyond the interests of the firm and that which is required by law” (McWilliams and Siegel 2001, p. 17). Former scholarships have probed peculiar aspects of CSR in connection with distinct dimensions of corporate governance in both developed and emerging economies and unearthed intriguing results due to the diverse stages of CSR reporting and guidelines in the investigated country (e.g. Aguilera et al. 2007; Ntim and Soobaroyen 2013; Starik and Marcus 2000; Zhang et al. 2013). Nevertheless, there is a need to incorporate an integrative approach while inspecting firm’s societal activities (Aguilera et al. 2007; Lau et al. 2016; Starik and Marcus 2000).

Lau et al. (2016) argued that majority of the debates on CSR have taken only single perspective and integrative empirical inquiries for theoretical developments are scarce particularly in the setting of evolving economies. Earlier research has employed diverse approaches (e.g. stakeholder theory, agency theory) in exploring the significance of firm’s CSR, though, in the context of emerging economy, the institutional view is considered the unique approach (Campbell 2007; Hoskisson et al. 2000; Margolis and Walsh 2003). Institutional approach accentuates imitative pressures and exterior lawfulness in obliging firms to perform ethically and responsibly. Moreover, precise mechanisms, e.g. environmental and governance strategies, at companies also influence the drive to social performance (Child and Tsai 2005; Hoffman 1999; Lau et al. 2016). Theoretical scholarships (e.g. DiMaggio and Powell 1983;

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Scott 1987, 2001) on neo-institutional theory illuminates that institutional factors (e.g. social, economic, political) can assimilate to cultivate, restraint or support the development practices and novelties in the present era businesses. Legitimation (moral) and efficiency (instrumental) are considered to be the two primary drivers for the aforementioned institutional antecedents (Aguilera et al. 2007; Zattoni and Cuomo 2008). Previous investigations (Judge et al. 2010; Zattoni and Cuomo 2008) have effectively employed neo-institutional theory in clarifying the implementation of corporate practices, e.g. employment of different international accounting standards (IAS) and corporate governance principles. Still, there is an urgent need to examine the institutional precursors of the global dispersion of CSR in organisations due to limited literature in this field.

This scholarship is such an endeavour to fill this gap by stressing CSR disclosure in organisations with the implementation of neo-institutional theory in the context of Chinese firms. This study extensively examines the impact of corporate governance dimensions, e.g. ownership structure and board characteristics on the CSR disclosure from the neo-institutional perspective, and has augmented the contemporary literature on CSR in several ways. First, this study has enriched the literature on CSR by integrating comprehensive neo-institutional theory (its two distinct features, i.e. legitimation and efficiency effects) and firm-level features in examining the influence of corporate governance system on CSR disclosure from world's second-biggest economy China. In developed countries, it is evident that the firms with better corporate governance result in better social performance (Zhang et al. 2013); however, the results of this study are of notable importance as the capital markets in the Chinese economy have entirely different settings. Second, this study is an extension of the previous work of Lau et al. (2016) who focused on RKS ratings to measure firms' social performance in China for just one-year data. Contrarily, this study is first of its nature to develop a "weighted average CSR disclosure score" for Chinese listed companies by using a secondary dichotomous data available with reliable Chinese database CSMAR in coherence with guidelines issued by stock exchanges of China. Earlier studies (Khan et al. 2013; Zeng et al. 2012) have used content analysis techniques and developed such scores, but the development of score from the secondary database is non-existent to the best of our knowledge.

Third, unlike previous CSR literature from China (see Lau et al. 2016; Li et al. 2013, etc.), the present study has employed a longitudinal data set of 1166 firms for 8 years (i.e. from 2008 to 2015) of Chinese enterprises. Previously, analyses of CSR disclosure for longitudinal data are missing in the literature. Preceding studies (Khan et al.

2013; Lau et al. 2016; Li et al. 2013; Ntim and Soobaroyen 2013) have stressed the urgency of utilising a longitudinal data for CSR disclosure from emerging economies. Therefore, the empirical findings of this study will bring interesting aspects of CSR disclosure over the last 8 years. Finally, this study will enable the researchers to comprehend the different dynamics of CSR disclosure in China. By investigating the situation of CSR disclosure after the issuance of detailed guidelines and instructions by regulatory bodies, this study contributes meaningfully towards the prevalent literature and delivers significant implications for the government, policy makers, regulatory agencies, practitioners and businesses.

Neo-institutional theory, CSR disclosure and China

Institutional theory is expansively employed in CSR-related studies because institutional (formal) requirements such as "rules and regulations, industry norms and standards, and public attentiveness" can influence a "firm's social behaviour" to a great extent (Campbell 2007). Scott's (2001) neo-institutional theory emphasise on three analyses level, (a) institutions in the society, (b) governance mechanism and (c) actors. In this model, societal/global institutions are at the top level and have the power to form, impede or spur structures and activities at other lower levels. Such institutions propose different social behaviours and pass those to others in the society. In the middle level of Scott's model, governance mechanisms lie and comprise of organisations (in similar industries) which diverge from each other regarding culture, values, organisational structure, complexity, etc. It constitutes the significance of analysis at the corporate level as organisational fields (organisations operating in similar industries), and economic institutions have the potential to affect the groups and vice versa. Individuals and groups (actors) make the bottom level of Scott's model. Scott (2001) extended the working of DiMaggio and Powell (1983), who discussed certain important concepts pertaining to institutions, e.g. (a) "coercive/regulative" (the forcible nature of establishments in coercing actors (individuals and groups) to follow the recognised standards), (b) "cognitive/mimetic" (the ability to imitate the conduct of other social actors) and (c) "normative" (i.e. anticipated and established social behaviour). Such institutional forces can have an impact on (be affected by) the diffusion forces and implementation of "institutional norms and practices" (Scott 2001). Also, they endeavour to develop efficient operational processes and fresh norms and practices for the institutions. According to neo-institutional view, institutional actors contest both for different resources



(“efficiency”) and for social approval and rightfulness, i.e. “legitimation” and consequently “institutional isomorphism” arises within “institutional contexts” (Judge et al. 2010, Ntim and Soobaroyen 2013).

Neo-institutional theory elucidates that by integrating established institutional norms, guidelines, principles and practices into organisational processes, legitimacy can be accomplished (DiMaggio and Powell 1983; Scott 1987, 2001). Therefore, conforming to CSR guidelines with improved disclosure boosts firm’s acceptability and legitimacy. Correspondingly, from an efficiency perspective, corporate financial performance can be improved by adapting to institutional forces (such as “coercive/regulative, cognitive/mimetic, normative”) and engaging in activities pertaining to CSR, e.g. environmental friendly production, caring for all stakeholders, managing industrial wastes proactively. Preceding scholarships (Aguilera and Cuervo-Cazurra 2009; Judge et al. 2010; Yoshikawa et al. 2007; Zattoni and Cuomo 2008) have utilised this approach in comprehension of different corporate standards and practices, e.g. legality of corporate governance, implementation of International Accounting Standards (IAS). Jo and Harjoto (2012) inspected the “causal effect” of corporate governance mechanism on CSR from US economy. Ntim and Soobaroyen (2013) employed neo-institutional theory and explored the nexus among CSR, corporate governance and financial performance in the context of South African enterprises. Zhang et al. (2013) examined that how board composition influences CSR after the implementation of “Sarbanes–Oxley Act” in the USA.

Multinational firms and foreign consumers initially introduced CSR concept into China in the late 1990s by urging the need for appropriate labour rights, and environmental friendly and quality products/services. It created a tensed environment for the Chinese firms who were solely motivated by huge profits instead of being socially and ethically responsible (during that era). Although the world witnessed a move from state-governed to socialist capital market in China in recent decades, this shift is often associated with firm’s behaviour which is less than socially responsible (Lu 2009). Scholars (Harvey 1999, Yin and Zhang 2012) have highlighted that in a modern business setting in China, firms are involved in financial and wealth maximisation objectives (by any means) and frequently compromised on ethical values to stay in the competition. In addition to these economic pressures, the adoption, encouragement or discouragement of CSR practices is also determined by the institutional environments (as cited by North 1990). Since joining World Trade Organization (in the early 2000s), China’s institutional environment, in particular, has been transformed considerably. On the one hand, amendments in “Company Law” to emphasise responsible corporate behaviour besides profit

maximisation and “Labour Law” (in 2008) to protect employees’ rights were initiated. On the other hand, Chinese government raised the slogan of “Harmonious Society” to emphasise the focus on “greener GDP” and promoted CSR as a social legitimacy transforming lever since the mid-2000s (Moon and Shen 2010; See 2009; Wang and Juslin 2011).

A recent meta-study from China (Yang et al. 2015) highlighted that limited literature (Marquis and Qian 2014; Rowe and Guthrie 2010; Zeng et al. 2012) is available on CSR from China by using neo-institutional perspective. The former urged the need to further explore CSR phenomenon in China from the neo-institutional framework, and we have attempted to fill this gap in this study. While relating neo-institutional theory in the Chinese specific context, we agree with Scott’s (2002) view that this perspective will bring forth better comprehension of firm’s behaviour in the transformed economic and social environment of China. The application of neo-institutional framework is pertinent to Chinese CSR environment because it will elucidate (1) institutionalisation, i.e. creation, diffusion and adoption of CSR over time; (2) de-institutionalisation, i.e. decline of CSR, and (3) its difference from other political, social and cultural settings (Yang et al. 2015). The institutional theory evolved from “top-down” approach (where primarily focus was on firm’s response to institutional forces of organisational conformance and isomorphism) to the assimilation of “organisation’s perceived strategic responses” (Scott 2008) which is substantial in integrating neo-institutional framework in the Chinese context. Specifically, the Chinese firms will voluntarily engage in socially responsible practices (in response to institutional regulations) to enhance their social legitimacy in the society. This urge to gain legitimacy and to remain competitive in the new institutional settings, the Chinese firms will pursue CSR and will enhance their CSR disclosure. Drawing on similar arguments, studies (e.g. Lau et al. 2016; Marquis and Qian 2014; Zeng et al. 2012) have used institutional perspective to explain CSR in China. We consent to these arguments and claim that these institutional backgrounds provide us appropriate settings to integrate neo-institutional approach with governance mechanism for the Chinese CSR environment, which in contrast to other approaches (stakeholder, agency) will shed new empirical insights from the world’s second-biggest economy.

Literature review and hypotheses development

Scholars have scrutinised the impact of different dimensions of corporate governance on CSR performance (Aguilera et al. 2006; Jo and Harjoto 2012; Lau et al. 2016;



McGuinness et al. 2017, Zhang et al. 2013) and the impact of firm-level elements on the practices and disclosure of CSR (Fifka 2013; Khan et al. 2013; Mahadeo et al. 2011). Khan et al. (2013) studied the nexus between corporate governance proxies and CSR disclosure in the context of Bangladesh by applying legitimacy theory and found the significance of corporate governance mechanisms in confirming the legitimacy of organisations through disclosure of CSR activities. However, an investigation with longitudinal data on CSR disclosure is almost non-existent in the previous studies. Further, the literature on how dynamics of corporate ownership and board's facets stimulate CSR disclosures is rather limited (Judge et al. 2010; Li et al. 2013; Lattemann et al. 2009; Mackenzie 2007). From the detailed analysis of the literature and research studies in above sections, this study has developed hypotheses by identifying critical variables of corporate governance about CSR disclosure. These variables include (a) variables related to ownership, e.g. state ownership in the company, institutional ownership, block ownership, (b) CEO duality and characteristics of the board, e.g. board size, board independence.

State ownership

Ownership is considered as an essential internal mechanism of corporate governance. Previous studies on corporate governance (Jo and Harjoto 2012; Lau et al. 2016; McGuinness et al. 2017) have emphasised that concentration of ownership and owners' types play a significant role in firm's performance. According to neo-institutional theory, the "coercive power" of the government (in the form of rules, regulations, etc.) is evident in the organisations in implementing the established laws, procedures, etc., and ultimately shaping the behaviour at organisational levels (DiMaggio and Powell 1983; Scott 1987, 2001). Further, CSR guidelines issued by regulatory bodies, e.g. Global Reporting Initiative (GRI) and procedures for good corporate governance across the globe, influence governments in other territories (Aguilera and Cuervo-Cazurra 2009; Zattoni and Cuomo 2008). Researchers suggests that greater ownership of state in firms will lead to an increase in CSR practices and disclosure (by implementing or conforming to CSR guidelines and regulations), as enterprises will look for state support (as a persuasive stakeholder) in gaining economic efficiency (by access to additional resources, e.g. subsidies) and moral legitimation of business's processes (Aguilera et al. 2007; Lau et al. 2016; Ntim and Soobaroyen 2013). Such firms (with the presence of state ownership) will be deemed as "socially and ethically responsible firms" and will have an emulating impact on the sister companies in the country.

Preceding studies reveal that existence of "state ownership" in companies in emerging economies, e.g. China, results in a larger impact on the behaviour and performance of the firms (Lu and Yao 2006; Marquis and Qian 2014). Some studies (Khan et al. 2013; Lau et al. 2016 etc.) have found this nexus as positive, while some studies (Dam and Scholtens 2012; Hou and Moore 2010, etc.) have found a negative relationship. Critically, prior studies (e.g. Hou and Moore 2010; Jia et al. 2009) highlighted that the triumph of "state ownership" in implementation of enhanced CSR disclosure and practices is reliant on nature and kind of state ownership, and they have provided proof that increased Chinese state ownership is connected with poor governance, i.e. significant level of corruption and fraud. Hence, considering the relevant literature available on the nature of state ownership from the context of Chinese enterprises, the first hypothesis for this study will be:

Hypothesis 1 There is a negative connection between state ownership and CSR disclosure in Chinese listed firms.

Institutional ownership

According to neo-institutional theory (legitimation perspective), institutional owners have enormous stakes in corporations (where they have made big investments), so they play a significant role in enterprises' investment decisions, financial and sustainability disclosure, etc., and in monitoring the corporate activities because they enjoy better financial and market knowledge over small investors (Oh et al. 2011). Ntim and Soobaroyen (2013) claimed that such big institutional investors could stimulate a thirst of increased revelations and commitment in firms' executives, e.g. towards disclosure of CSR practices, which by gaining support and trust of associated stakeholders (e.g. employees, state) can ultimately enrich corporate legitimacy and firm's financial performance. However, the past studies provide interesting empirical results in the context of CSR disclosure and institutional ownership. For instance, some studies reveal a positive relationship (e.g. Jo and Harjoto 2011, 2012; Neubaum and Zahra 2006; Oh et al. 2011), some studies have found a negative relationship (Barnea and Rubin 2010; Ntim and Soobaroyen 2013), and a few studies have found insignificant relationship between institutional ownership and CSR disclosure (Dam and Scholtens 2012). Despite this conflicting literature and findings, this study assumes that institutional owners will have a positive impact on practices and disclosure of CSR, as such owners want to make big profits on their massive investments and will influence the management and concerned stakeholders to portray an image of ethically and socially responsible firm. Therefore, the second hypothesis for this study will be:



Hypothesis 2 There is a positive connection between institutional ownership and CSR disclosure in Chinese listed firms.

Block ownership

Neo-institutional theory (Scott 2001) explicates that companies (concentrated by ownership) are inclined to shunning institutional pressures (e.g. coercive, mimetic and normative) in the initiation of innovative business practices, e.g. following codes of CG conduct, adhering to CSR guidelines. This is due to two perspectives of neo-institutional theory, (a) efficiency perspective: an increased management monitoring along with block ownership can result in reduction in agency conflicts besides little demand for CSR disclosures by stakeholders, (b) legitimation: an increase in block ownership will reduce the concerns for public responsibility due to restricted power of outside stakeholders (Scott 2001). As a result, managers in such firms want to enjoy more benefits, so they have less inclination to invest in CSR activities; on the other hand, companies (with extensive ownership structure) tend to improve company's financial conditions by focusing on CSR disclosure because they have an obligation to reduce the agency costs and conflicts between principal (dispersed shareholders) and agents (managers), thus depicting an adverse relationship amid block ownership and disclosure of CSR (Barnea and Rubin 2010; Lau et al. 2016; Ntim and Soobaroyen 2013). Similarly, some new studies supported this argument and proved that block ownership results in lesser CSR disclosure (Arora and Dharwadkar 2011; Jo and Harjoto 2011, 2012; Khan et al. 2013; Oh et al. 2011). By the larger empirical evidence (as discussed earlier), the third hypothesis of this study will be:

Hypothesis 3 There is a negative connection between block ownership and CSR disclosure in Chinese listed firms.

Board size

Jensen and Meckling (1976) in their profound work of agency theory discussed the important role of boards in the organisations. They stated that boards have to either monitor the compliance of rules and regulations ("conformance") or to give invaluable guidance for business betterment and availability of required critical resources ("performance"). Similarly, from the perspective of neo-institutional theory (Scott 2001) greater board size (higher monitoring) results in enhanced firm performance and value for stakeholders by compliance with rules and regulations. Further, the diverse nature (experiences, knowledge, proficiencies) of "large boards" will result in the

better reputation of the organisation, i.e. legitimation view. It implies that large boards will tend to involve in better CSR practices and disclosure. However, Jensen (1993) argued that large boards often lead to some issues, e.g. problems in communication, coordination, free riding, evading responsibilities, resulting in little monitoring of the management or supremacy of influential managers, which can have a harmful impact on the disclosure patterns in corporations, especially on CSR disclosure. Previous studies have exhibited that in the context of Chinese enterprises, high level of monitoring is anticipated from boards (which are large). Otherwise, punishment and penalties happen (Hou and Moore 2010; Jia et al. 2009). Preceding erudition has provided limited proof on the nexus of board size and CSR disclosure, and there is mixed literature both in favour of and against the effect of board size on the CSR disclosure (Lau et al. 2016; Ntim and Soobaroyen 2013). However, in accordance with the expectations from large boards in China, the fourth hypothesis of the study will be:

Hypothesis 4 There is a positive connection between board size and CSR disclosure in Chinese listed firms.

Board composition

Neo-institutional theory (Scott 2001) enlightens that due to separation of control and ownership in modern era corporations, a "legitimacy gap" innately arises which leads to agency problems, e.g. lack of trust between agents (managers) and shareholders (principal) and ultimately raises the question about well-being and interests of stakeholders (especially shareholders) in response to legitimacy of decisions taken by management. Researchers claim that such menaces can be curtailed by appointment of outside/independent directors on the board, who will be more attentive of management' behaviours and decisions specifically about social practices and activities (Jo and Harjoto 2012; Lau et al. 2016; Ntim and Soobaroyen 2013). Further, it implies that if independent directors possess the high potential of monitoring, then the firm will indulge more in CSR-related activities, so the presence of independent directors can result in enhanced firm performance and reduction in agency conflicts. Further, to secure a reputation and career progression, such independent directors will be more inclined to participate in CSR-related activities and will also influence and persuade managers in promoting such practices in the organisation. A large number of empirical literature supports the board independence and provides evidence that it has a positive impact on the CSR disclosure and practice (Harjoto and Jo 2011; Lattemann et al. 2009; Lau et al. 2016; Ntim and



Soobaroyen 2013). In alignment with the previous literature, the fifth hypothesis in this study will be:

Hypothesis 5 There is a positive connection between board composition and CSR disclosure in Chinese listed firms.

CEO duality

Rechner and Dalton (1989) described CEO duality as a setting in which similar individual possesses the occupation of “CEO and chairman” in a company. Prior research has argued that serious corporate governance concerns arise if the position of CEO and chairman is conferred to the same individual because the effectiveness and fairness of board (while taking decisions) can be severely affected (Khan et al. 2013; Li et al. 2008). Haniffa and Cooke (2005) proposed two conflicting perspectives (a) the division of CEO and chairman roles can enhance management efficiency by a monitoring mechanism, (b) such detachment is not decisive because corporations have active boards to conduct and monitor organisational activities. From neo-institutional perspective, CEO duality bestows more supremacy and influence to an individual in companies, and such individuals (in response to instructions/guidelines of regulatory bodies or institutions) can make decisions which are unfavourable to the society and environment. Thus, there is a potential they can affect the practices leading to CSR or disclosure of CSR. Following this argument, it will be interesting to examine the impact of CEO duality on the disclosure of CSR in Chinese enterprises. Thus, the sixth hypothesis in this study will be:

Hypothesis 6 There is a negative connection between CEO duality and CSR disclosure in Chinese listed firms.

Research context and research methodology

Regulations and guidelines on CSR disclosure in China

The Chinese economy has emerged as the second-biggest economy, and it possesses the means to bring solutions at the global level in overwhelming the adverse impact of climate change. Since the beginning of transition phase, Chinese enterprises are facing severe distresses, e.g. apprehensions for environmental safety, business philanthropy, worker’s rights, stakeholders protection. China is now in dire need to encourage constant awareness of “social responsibility” besides ensuring sustainable economic growth and profits, which requires the institutions and government to play a supportive role. It highlights the importance of investigation of CSR practices and

disclosure from the Chinese economy. Wang and Juslin (2011) discussed that the slogan of “Harmonious Society” by the Chinese government is a clear indication that CSR has got the keen attention in China and the determination to bring “balanced and sustainable growth” in the country has begun. In this context, during the second half of the 2000s, some new initiatives and guidelines were promulgated by Chinese government, regulatory bodies and non-governmental organisations (NGOs) to develop inducements for enhancing CSR practices, to overcome environmental challenges and to inspire more regularisation of corporate financial reporting and sustainability disclosure (either on compulsory or voluntary basis) in Chinese enterprises. For instance, Open Government Information (OGI) launched in 2007 was the first guideline for information disclosure by the government (Yang et al. 2015). Similarly, Shenzhen Stock Exchange (SZSE) was a pioneer in issuing guidelines on sustainability reporting in the form of “The Shenzhen Stock Exchange Social Responsibility Instructions to Listed Companies” to its listed companies in September 2006 with a purpose of inspiring its listed corporations to generate “CSR reports” beside their financial reports. These recommendations encompass six different areas related to the protection of the welfares and rights of various stakeholders (both internal and external) groups (Noronha et al. 2013). Correspondingly, two guiding principles namely, “Notice on Strengthening Listed Companies’ assumption of Social Responsibility” and “Guidelines on Listed Companies’ Environmental Information Disclosure” were launched by Shanghai Stock Exchange (SSE) in May 2008 to promote CSR reporting (Noronha et al. 2013). It depicts that an organised structure for CSR reporting exists in China but it is not as extensive as that in developed countries, and an interesting research question arises whether the Chinese enterprises disclose CSR information while following the standardised guidelines provided by the regulatory bodies. This study has attempted to fill this gap and examined the nexus between corporate governance and CSR disclosure from the neo-institutional perspective by developing a weighted CSR disclosure score in analogy with the previously discussed guidelines of regulatory bodies in China.

Data and sample selection

CSMAR is the biggest financial database in China, and its reliability is assured as it has been used widely in studies related to Chinese enterprises (Marquis and Qian 2014). A total of 1166 companies (from a total of eight industries) listed on SZSE and SSE have been selected as a sample size, and financial and CSR-related data have been extracted from CSMAR database for the 8 years starting from 2008 to 2015. Table 1 represents the industry-wise



Table 1 Industry-wise breakdown of firms with and without CSR disclosure

	Firms			%age
	No-CSR disclosure	CSR disclosure	Total	
Farming, forestry, animal husbandry and fishery	170	30	200	2
Mining sector	299	181	480	5
Manufacturing industry	5201	1783	6984	75
Production and supply of power heat, gas and water	450	206	656	7
Construction industry	249	79	328	4
Transportation, storage and postal services	324	196	520	6
Scientific and technical services	30	2	32	0
Water, environment and public facilities management industry	113	15	128	1
Total	6836	2492	9328	100

breakdown of the firms with and without CSR disclosure for the entire dataset. The starting year has been taken as 2008 because by that time guidelines for CSR practices and disclosure were already issued by both SSE and SZSE and also from “2008” CSMAR started to release data related to CSR disclosure of Chinese enterprises. In this study, the sample is comprised of only “non-financial companies” listed on SSE and SZSE. Financial companies were excluded from the analyses because they have different restrictions on capital structure, various accounting years and the nature of their working is distinct from that of non-financial firms. Further, the companies with missing years were excluded from the data to ensure a balanced panel data. It is in consistency with the previous studies (e.g. Henry 2008; Ntim and Soobaroyen 2013; Reverte 2009). Finally, a total of 1166 firms with 9328 firm-year observations have been included in this study for the analysis of developed hypotheses.

Econometric model and measurement of variables

Wooldridge (2010) and Gujarati (2009) discussed that ordinary least squares (OLS) are inefficient in identifying the “unobserved firm-specific heterogeneities”, e.g. culture in the companies, executive talents (Guest 2009; Henry 2008) which can have considerable influence on the CSR disclosure and CG mechanism. Thus, this study will utilise the panel data regression techniques as the nature of data is panel and potential endogeneity will be controlled in order to avoid the effect of unobserved firm’s factors and will follow the additional techniques of previous studies (Marquis and Qian 2014, McGuinness et al. 2017, Ntim and Soobaroyen 2013). Additionally, to control the influence of extreme values, all the continuous variables have been winsorised at 1 and 99%. The econometric model for the determinants of CSR disclosure is as follows:

$$\begin{aligned} \text{weightedscore}_{it} = & b_0 + \beta_1 \text{State ownership}_{it} \\ & + \beta_2 \text{institutional ownership}_{it} \\ & + \beta_3 \text{block ownership}_{it} \\ & + \beta_4 \text{board size}_{it} \\ & + \beta_5 \text{board composition}_{it} \\ & + \beta_6 \text{CEO duality}_{it} + \sum_{i=1}^n \beta_i \text{control variables}_{it} + \varepsilon_{it} \end{aligned}$$

In this equation, “weighted score” represents the weighted CSR disclosure score, β_1 to β_6 illustrates the coefficients of the predictors of CSR disclosure namely, “state ownership, institutional ownership, block ownership, board size, board composition and CEO duality”. Control variables comprise of “firm’s advertising intensity, managerial ownership, firm size, slack resources, and sales growth, NPM, leverage, stock exchange, and industry and year dummies”.

Weighted CSR disclosure score

CSR disclosure is our primary dependent variable in this research. CSR-related information, e.g. “whether or not a company has disclosed protection of employees’ interest or not” has been utilised to develop a weighted average score from the data available on CSMAR database. The study has employed the 13 items which are common in the CSR guidelines issued by SSE and SZSE. In accordance with previous studies (e.g. Haniffa and Cooke 2002; Khan et al. 2013) on CSR disclosure, weights have been assigned, e.g. a weight of 3 for items related to “Quantitative disclosure classification”, a weight of 2 for items of “Qualitative specific disclosure classification” and a weight of 1 for items of “Qualitative general disclosure classification”. A value of zero was assigned in case of non-disclosure of an item by the corporation. The weights were then multiplied by the corresponding CSR items, and a weighted average



was calculated which represent the weighted average score. The details of these thirteen CSR-related items are given in “Appendix”. Cronbach’s alpha value was also calculated for the 13 items of the weighted score to ascertain the “internal consistency” of the developed score. The scale reliability coefficient was 0.94 in coherence with previous studies (e.g. Khan et al. 2013), i.e. greater than 0.70.

Independent and control variables

For hypothesis testing, corporate governance proxies have been measured in coherence with previous studies (Jo and Harjoto 2011; Lau et al. 2016; Ntim and Soobaroyen 2013). State ownership is calculated as “the percentage of state-owned shares to the total number of shares”. Institutional ownership is measured as the natural log of “percentage of shares held by an investment fund to a total number of shares in the corporation”. Block ownership is equal to the “natural log of largest shareholding rate in the firm”, board size is calculated as “natural log of the total number of board directors in the company”, board composition is the “percentage of independent non-executive directors to the total number of board directors in the firm”, and CEO duality is a dichotomous variable which has a value of “1” if CEO and chairman are same people and a value of “0” if they are different person. Following preceding studies, the study has also undertaken some control variables to control for biases that arise due to the omission of potential variables (Gujarati 2009; Wooldridge 2010). These control variables are firm’s advertising intensity (ratio of selling, general and administrative expenses to total sales), managerial ownership (percentage of shares held by board of directors to the total number of shares), firm size (natural log of firm’s total assets), sales growth (percentage of present year’s sales minus preceding year’s sales to previous year’s sales), slack resources (total cash flows from a firm’s operating, financing, and investing activities by company’s total assets), net profit margin (net profit divided by net sales), leverage (ratio of total debts and total assets), stock exchange (dummy variable equals to “1” if firm is listed on “Shanghai Stock Exchange” and “0” if firm is listed on “Shenzhen Stock Exchange”), and industry and year dummies (industry and year dummies for each eight sampled industries and 8 years from 2008 to 2015).

Empirical findings

Descriptive statistics

Tables 2 and 3 illustrate descriptive statistics and correlation matrix along with values for variance inflation factor

(VIF), respectively. The mean score of weighted CSR disclosure score is 0.234 with a maximum score of 1.308 and a minimum of 0. The average value of CSR dummy shows that 26.70% of the total firms have disclosed CSR activities in accordance with the guidelines of both stock exchanges. On average each firm at least has 11.20% state-owned shares; however, from our entire sample, 59.70% of the firms are state-owned. The maximum percentage of state ownership in any firm is 83.80%. These statistics reaffirm the argument that still the Chinese government plays an influential role in the decision-making of the majority of enterprises. The maximum shares possessed by institutional owners in Chinese firms are found to be 74.90%. The minimum and a maximum number of board directors in China are “0” and “18”, respectively, with an average of 9 directors. This represents that the board size is comparatively large in China. Contrary to this, the number of independent directors on the board is small with an average of 3 independent directors in the firm. The presence of CEO duality is also evident from the descriptive statistics. On average 17% of firms’ CEO and Chairman are the same individuals. From Table 3, it is clear that the correlations among predictor variables are not high and the values for VIF are also less than the standard threshold of 5. Thus, there is no issue of multicollinearity in the data.

Results and discussion

Due to the presence of heteroscedasticity and serial autocorrelation in the data, panel data GLS estimations have been used as a principal tool for examination in this study (Gujarati 2009; Hoehle 2007; Wooldridge 2010). Panel data-generalised least squares (GLS) results for the determinants (ownership structure and board characteristics) of CSR disclosure are presented in Table 4. Model 1 depicts the relationship between control variables and our outcome variable. Apart from “managerial ownership”, the majority of the rest of control variables are significant at 1% level. Overall the model is highly significant at 1% with a large value of Wald Chi square. Models 2 and 3 represent the GLS analyses with ownership and board variables separately. However, the results are same in terms of statistical significance as in the Model 4, where all predictors of CSR disclosure are incorporated. In explaining the results, we are putting more emphases on the Model 4. In Model 4, all the rest of our main predictors are significant at 1% level apart from CEO duality which has no statistical significance.

Our first hypothesis is related to the effect of state ownership on CSR disclosure. In Model 4, state ownership is significant at 5% level with a negative coefficient of -0.049 . It shows that a 1% increase or decrease in the percentage of state ownership will reduce or increase the



Table 2 Descriptive statistics

Variable	N	Mean	Standard Deviation	Minimum	Maximum
weightedscore	9328	0.234	0.403	0.000	1.308
CSRD dummy	9328	0.267	0.442	0.000	1.000
State ownership (%)	9328	0.112	0.193	0.000	0.838
SOE dummy	9328	0.597	0.491	0.000	1.000
Institutional ownership	9320	7.210	10.254	0.052	74.900
Block ownership	9328	- 1.651	0.104	- 1.962	- 1.446
Board size	9261	9.083	1.863	0.000	18.000
Board composition	9261	3.308	0.702	0.000	8.000
CEOduality	9182	0.170	0.376	0.000	1.000
FAI	9286	0.152	0.127	0.014	0.784
Managerial ownership	8758	0.050	0.159	0.000	0.995
Firm size	9327	22.009	1.369	18.851	25.878
Slack resources	9324	0.012	0.077	- 0.200	0.310
Sales growth	8919	0.157	0.489	- 0.574	3.430
NPM	9317	0.049	0.193	- 1.032	0.723
Leverage	9328	2.872	4.637	- 7.034	29.848
Stock exchange	9328	0.514	0.500	0	1

This table illustrates the descriptive statistics for the full sample. The dependent variable is “weightedscore” developed from dichotomous data related to 13 items of CSR disclosure. “CSRD dummy” is a dummy variable for CSR disclosure where “1” represents disclosure and “0” denotes no disclosure. “SOE dummy” is a dummy variable for state ownership where “1” represents state-owned firms and “0” denotes non-state-owned firms. The independent variables are state ownership (%) (percentage of state-owned shares to the total number of shares), institutional ownership (natural log percentage of institutional ownership to total shares), block ownership (natural log of largest shareholding rate in the firm), board size (natural log of the total directors), board composition (percentage of independent non-executive directors to the total directors) and CEOduality (dummy variable which has a value of “1” if CEO and chairman are same person and “0” otherwise). Control variables are FAI, i.e. firms advertising intensity (ratio of selling, general and administrative expenses to total sales), managerial ownership (percentage of shares held by directors to total shares), firm size (natural log of firm’s total assets), sales growth (percentage of present year’s sales minus preceding year’s sales to preceding year’s sales), slack resources (total cash flows from a firm’s operating, financing, and investing activities by firm’s total assets), NPM (net profit divided by net sales), leverage (ratio of total debts and total assets), and stock exchange (dummy variable equals to “1” if firm is listed on “Shanghai Stock Exchange” and “0” if firms is listed on “Shenzhen Stock Exchange”)

firm’s CSR disclosure score by 0.049%. This provides moderate empirical support for our first hypothesis that high level of state ownership will lead to low level of CSR disclosure in Chinese enterprises. Theoretically, the strong involvement of government in promoting CSR practices and encouraging firms to disclose CSR activities is dependent on the nature of state ownership. Previous literature shows that high level of state ownership in China often results in poor corporate governance and high level of malpractices and corruption (Dam and Scholtens 2012; Hou and Moore 2010; Jia et al. 2009). It also explains that firms with little or no state ownership can also be motivated to disclose CSR practices by embracing CSR practices as per neo-institutional theory (Ntim and Soobaroyen 2013). Thus, our findings are in accordance and reaffirm the results of previous literature (Dam and Scholtens 2012, Hou and Moore 2010; Jia et al. 2009) who found a negative relationship between state ownership and CSR disclosure.

Our second hypothesis is related to the impact of institutional ownership on CSR disclosure. In Model 4, institutional ownership is significant at 1% with a positive

coefficient of 0.138, which implies that a 1% increase or decrease in institutional ownership will increase or decrease the CSR disclosure score by 0.138%. This provides strong empirical support for our second hypothesis that high level of institutional ownership will lead to high level of CSR disclosure in Chinese enterprises. Empirically, our results are in accordance with the findings of preceding literature (Jo and Harjoto 2011, 2012; Oh et al. 2011). From the neo-institutional perspective, empirical findings explain that being equipped with better market knowledge, institutional investors stimulate the firms to engage in and disclose CSR practices to ensure huge profits for themselves and attaining legitimacy in the society.

Our third hypothesis is related to the impact of block ownership on CSR disclosure. In Model 4, block ownership is found to be negatively related to CSR disclosure at 1% significance level and a strong coefficient of - 0.317. This implies that an increase in block ownership by 1% will decrease the CSR disclosure score by 0.317% and vice versa. This offers strong empirical evidence for our third hypothesis that high-level block ownership will lead to low



Table 3 Correlation table and variance inflation factor (VIF)

S. No	Variables	VIF	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	weightedscore	1														
2	State ownership (%)	1.08	.01													
3	Institutional ownership	1.43	-.13*	-.12*												
4	Block ownership	1.93	-.28*	-.03*	.53*											
5	Board size	1.34	.14*	.13*	-.11*	-.20*										
6	Board composition	1.20	.03*	-.02*	-.05*	-.06*	-.38*									
7	CEOduality	1.07	-.05*	-.11*	.08*	.04*	-.16*	.07*								
8	FAI	1.23	-.11*	-.11*	.16*	.11*	-.13*	.03*	.13*							
9	Managerial ownership	1.10	-.02*	-.16*	.15*	.18*	-.13*	.05*	.14*	.06*						
10	Firm size	1.87	.43*	.12*	-.36*	-.57*	.29*	.03*	-.14*	-.38	-.1*					
11	Slack resources	1.03	-.01	-.01	.05*	.01	-.01	.02	.03*	.02	.02	.02				
12	Sales growth	1.04	-.01	.01	.03*	.06*	.01	-.01	.01	-.10	.05*	.03*	.10*			
13	NPM	1.09	.09*	-.01	.03*	-.03*	.03*	-.01	-.01	-.16	.05*	.13*	.14*	.16*		
14	Leverage	1.03	-.01	.03*	-.09*	-.06*	.05*	-.01	-.01	-.09	-.05*	.08*	-.02*	-.03*	-.08*	
15	Stock exchange	1.09	.04*	.05*	-.12*	-.16*	.11*	-.03*	-.12	-.01	-.21*	.18*	.01	-.02	-.03*	.02*

This table illustrates the variance inflation factor (VIF) and correlation matrix. The dependent variable is “weightedscore” developed from dichotomous data related to 13 items of CSR disclosure. The independent variables are state ownership (%) (percentage of state-owned shares to the total number of shares), institutional ownership (natural log percentage of institutional ownership to total shares), block ownership (natural log of largest shareholding rate in the firm), board size (natural log of the total directors), board composition (percentage of independent non-executive directors to the total directors) and CEOduality (dummy variable which has a value of “1” if CEO and chairman are same person and “0” otherwise). Control variables are FAI, i.e. firms advertising intensity (ratio of selling, general and administrative expenses to total sales), managerial ownership (percentage of shares held by directors to total shares), firm size (natural log of firm’s total assets), sales growth (percentage of present year’s sales minus preceding year’s sales to preceding year’s sales), slack resources (total cash flows from a firm’s operating, financing, and investing activities by firm’s total assets), NPM (net profit divided by net sales), leverage (ratio of total debts and total assets), and stock exchange (dummy variable equals to “1” if firm is listed on “Shanghai Stock Exchange” and “0” if firms is listed on “Shenzhen Stock Exchange”).

*Significance at *p* value 5%



Table 4 Panel data-generalised least squares (GLS) results for the impact of ownership structure and board characteristics on the CSR disclosure score

Dependent variable	Weighted average CSR disclosure score			
	Model 1	Model 2	Model 3	Model 4
<i>Ownership and board variables</i>				
State ownership		- 0.039* (0.022)		- 0.049** (0.022)
Institutional ownership		0.131*** (0.029)		0.138*** (0.029)
Block ownership		- 0.330*** (0.054)		- 0.317*** (0.055)
Board size			0.099*** (0.024)	0.098*** (0.024)
Board composition			0.268*** (0.086)	0.271*** (0.086)
CEO duality			- 0.005 (0.011)	- 0.012 (0.011)
<i>Control variables</i>				
Firm's advertising intensity	0.177*** (0.036)	0.132*** (0.036)	0.179*** (0.036)	0.135*** (0.037)
Managerial ownership	0.016 (0.026)	0.025 (0.026)	0.024 (0.026)	0.030 (0.027)
Firm size	0.138*** (0.003)	0.128*** (0.004)	0.134*** (0.004)	0.125*** (0.004)
Slack resources	- 0.089 (0.054)	- 0.100* (0.054)	- 0.085 (0.055)	- 0.098* (0.055)
Sales growth	- 0.028*** (0.009)	- 0.025*** (0.009)	- 0.027*** (0.009)	- 0.025*** (0.009)
NPM	0.108*** (0.023)	0.101*** (0.023)	0.117*** (0.023)	0.109*** (0.023)
Leverage	- 0.003*** (0.001)	- 0.003*** (0.001)	- 0.003*** (0.001)	- 0.003*** (0.001)
Stock exchange	- 0.029*** (0.008)	- 0.029*** (0.008)	- 0.031*** (0.008)	- 0.032*** (0.008)
Constant	- 2.880*** (0.079)	- 2.948*** (0.086)	- 3.102*** (0.094)	- 3.152*** (0.099)
Industry dummies	Included	Included	Included	Included
Year dummies	Included	Included	Included	Included
Observations	8328	8321	8159	8152
Number of stock codes	1166	1165	1166	1165



Table 4 continued

Dependent variable	Weighted average CSR disclosure score			
	Model 1	Model 2	Model 3	Model 4
Log likelihood	– 3402	– 3376	– 3331	– 3304
Wald Chi square	2268***	2330***	2261***	2325***
<i>F</i> -prob	0	0	0	0

This table shows the panel data GLS estimates. The dependent variable is “weightedscore” developed from dichotomous data related to 13 items of CSR disclosure. The independent variables are state ownership (%) (percentage of state-owned shares to the total number of shares), institutional ownership (natural log percentage of institutional ownership to total shares), block ownership (natural log of largest shareholding rate in the firm), board size (natural log of the total directors), board composition (percentage of independent non-executive directors to the total directors) and CEO duality (dummy variable which has a value of “1” if CEO and chairman are same person and “0” otherwise). Control variables are FAI, i.e. firms advertising intensity (ratio of selling, general and administrative expenses to total sales), managerial ownership (percentage of shares held by directors to total shares), firm size (natural log of firm’s total assets), sales growth (percentage of present year’s sales minus preceding year’s sales to preceding year’s sales), slack resources (total cash flows from a firm’s operating, financing, and investing activities by firm’s total assets), NPM (net profit divided by net sales), leverage (ratio of total debts and total assets) and stock exchange (dummy variable equals to “1” if firm is listed on “Shanghai Stock Exchange” and “0” if firms is listed on “Shenzhen Stock Exchange”). Further, industry dummies (for all eight industries), year dummies (for 8 years from 2008 to 2015), log likelihood, Wald Chi square and *F*-prob (*F*-probability) are given. Standard errors are given in parentheses

***, ** and *significance at 1, 5 and 10%, respectively

level of CSR disclosure in Chinese enterprises. From the neo-institutional perspective, firms with block ownership spurns the necessity of engagement in social activities and obligations and have less concern for legitimacy due to more involvement in the monitoring of management due to increased stakes in the firm. As the prime purpose of the management becomes the enhancement of profits for owners, the motivation to invest in and disclose CSR declines and vanishes gradually. Thus, our empirical findings that high block ownership is connected with low CSR disclosure confirm the results of prior literature (Arora and Dharwadkar 2011; Khan et al. 2013; Lau et al. 2016).

The fourth hypothesis inspects the nexus between board size and CSR disclosure. According to Model 4, board size has been found to be a predictor of CSR disclosure (statistically significant at 1% with a positive coefficient of 0.098). This infers that an increase (decrease) in board size by 1% will increase (decrease) the CSR disclosure score by 0.098%. It depicts strong empirical support for our fourth hypothesis that a large board size will lead to high level of CSR disclosure in Chinese enterprises. From neo-institutional framework, our findings elucidate that large boards (who brings forth diversified expertise) are more prone to comply with the regulations and guidelines of institutional bodies to attain legitimacy and improved image of the firm. This motivates the board to proactively involve in CSR activities and communicate their CSR practices by increased CSR disclosure. Additionally, our findings are in coherence with findings of Hou and Moore (2010), Mackenzie (2007) and Ntim and Soobaroyen (2013).

The fifth hypothesis investigates the impact of board composition on CSR disclosure. The board composition is also significant at 1% with a positive coefficient of 0.271

(from Model 4). This deduces that an increase (decrease) in independent directors (board composition) by 1% will increase (decrease) the CSR disclosure score by 0.271%. Thus, our fifth hypothesis is also firmly accepted according to the empirical findings. Our results are in accordance with neo-institutional perspective, which illuminates that the presence of independent directors on board is seen as an effort towards involvement in social activities and an attempt to inhibit the “legitimacy gap” which arises due to the separation of ownership and control in the firms. Such independent directors are more inclined in promoting and disclosing social activities to maintain their positive image and to ensure company’s prospects. This empirical finding of our study is in congruence with those of prior research (Haniffa and Cooke 2005; Harjoto and Jo 2011; Lau et al. 2016, Ntim and Soobaroyen 2013).

The last hypothesis of the study explores the relationship between CEO duality and CSR disclosure. The results show an insignificant, weak negative coefficient of – 0.012 for CEO duality, and thus, the last hypothesis of our study is rejected. Though the negative coefficients indicate a negative association between the CEO duality and CSR disclosure as per the theory, the results failed to achieve the statistical significance in the context of Chinese enterprises. Khan et al. (2013) also found the insignificant impact of CEO duality while investigating the impact of corporate governance on CSR disclosure. Our findings are in congruence with their conclusions. Further, apart from managerial ownership, all the rest of control variables are statistically significant in Model 1 to Model 4. We have also controlled for industry and year dummies in the analysis, but the details are excluded from the table due to the succinctness of results. Following the related studies



(McGuinness et al. 2017) in the context of the Chinese listed firms, we also included a control variable for “stock exchange” in all models of our main regression analysis. The results depict negative and significant coefficients for the stock exchange dummy (“1” for Shanghai Stock Exchange and “0” for Shenzhen Stock Exchange) and our outcome variable. McGuinness et al. (2017) have also reported the similar findings. This result depicts that CSR disclosure is more pronounced for firms listed in Shanghai Stock Exchange in comparison to the Shenzhen Stock Exchange. Lastly, the Wald Chi square is also very large and statistically significant in all the four models. In short, we found moderate support for our first hypothesis, strong evidence for hypotheses 2–5 and no empirical evidence for hypothesis 6.

Sensitivity analysis

For sensitivity analysis, we employed three different measures for CSR disclosure, and the results are shown in Table 5. The first measure is a simple score, which utilises the same dichotomous data (as in weighted CSR disclosure score) but with simple average and no allocation of weights. Model 1 of Table 5 illustrates the impact of predictor variables on the simple score (as outcome variable). We found similar results for Model 1 as we found in Model 4 of Table 4. State ownership is found to be a moderate negative predictor of CSR disclosure (with a negative coefficient of -0.035 at 5% significance level). Institutional ownership has a strong positive relationship with the disclosure of CSR (with a positive coefficient of 0.098 at 1% significance level). Block ownership is negatively linked with CSR disclosure with a statistically significant coefficient of -0.213 at 1% significance level. Both board size and board composition are positive predictors of CSR disclosure at 1% significance level with positive coefficients of 0.069 and 0.184 , respectively. CEO duality has a statistically insignificant negative relationship with CSR disclosure. The sensitivity analysis by using “simple score” as a proxy for CSR disclosure strengthens the findings of our estimations in the previous section.

Further, we split the weighted CSR disclosure score into “Social Sustainability Score” and “Environmental Sustainability Score” and re-estimated the GLS equations. We found similar significant results and improved coefficients. Model 2 depicts the impact of predictors on the second measure, i.e. “Social Sustainability Score” of CSR disclosure for sensitivity analysis. The negative coefficient for state ownership has improved to -0.054 at 10% significance level, implying moderate support to our first hypothesis. The sharp increase in the positive coefficient of institutional ownership (from 0.098 in Model 1 to 0.196 in Model 2) is evident from Model 2. This implies that the

increase or decrease in institutional ownership will increase or reduce the disclosure of CSR specifically from the perspective of “social sustainability”. On the other hand, an increase in block ownership will negatively impact the firms’ motivation towards disclosure of activities pertaining to social sustainability (because the coefficient is -0.343 at 1% significance level). Contrary to this, firms with the large board (positive coefficient of 0.116 at 1% significance level) and independent directors (positive coefficient of 0.299 at 1% significance level) will be more inclined towards disclosure of activities related to social sustainability. Like in the previous estimation, the results failed to provide a statistically significant impact of CEO duality on social sustainability score. Model 3 highlights the effect of our predictor variables on a different proxy of CSR disclosure, i.e. environmental sustainability score for sensitivity analysis. Again, we find similar results as in previous models and found statistical support for our first five hypotheses and no support for the sixth hypothesis of the study. The results for our control variables are quite similar regarding statistical significance as we found in our baseline model in Table 4. Our sensitivity analysis reaffirms the negative coefficients for “stock exchange” dummy, i.e. a more prominent disclosure of social activities in case of Shanghai stock exchange in comparison to their counterparts. We also controlled for industry and year dummies in our sensitivity analyses. The Wald Chi square value is also very large and statistically significant at 1% significance level depicting the overall fitness of the model.

Conclusion, limitations and future directions

Although preceding scholarships have explored the causes and impetuses of CSR disclosure and corporate governance on a discrete basis, there is little evidence on how internal mechanisms of corporate governance can affect CSR activities and disclosure in the context of the Chinese economy. This paper is such an attempt to bring new insights by examining the impact of corporate governance’s internal mechanism on CSR disclosure. This research makes some significant contributions to the prevalent literature. This research assimilates the two distinct features (legitimation and efficiency) of Scott’s model of neo-institutional theory (Scott 2001) and firm characteristics in investigating the effect of internal mechanisms of CG on CSR disclosure in the different economy of China. This study overcomes the limitations (small sample size, the application of content analysis techniques, etc.) of preceding literature. This empirical paper adds to the current literature by examining panel data set collected from a reliable database of Chinese listed firms (non-financial firms) from 2008 to 2015. The time period of data used in



Table 5 Sensitivity analysis: panel data-generalised least squares (GLS) results for the impact of ownership structure and board characteristics on the different measures of CSR disclosure

Dependent variables	Simple score Model 1	Social sustainability Model 2	Environmental sustainability Score Model 3
<i>Ownership and board variables</i>			
State ownership	– 0.035** (0.016)	– 0.054* (0.029)	– 0.066** (0.032)
Institutional ownership	0.098*** (0.021)	0.196*** (0.038)	0.198*** (0.041)
Block ownership	– 0.213*** (0.038)	– 0.343*** (0.071)	– 0.305*** (0.077)
Board size	0.069*** (0.017)	0.116*** (0.031)	0.122*** (0.034)
Board composition	0.184*** (0.060)	0.299*** (0.111)	0.311** (0.121)
CEO duality	– 0.010 (0.008)	– 0.020 (0.014)	– 0.012 (0.016)
<i>Control variables</i>			
Firm's advertising intensity	0.079***	0.130***	0.114**
FAI	0.079*** (0.026)	0.130*** (0.048)	0.114*** (0.052)
Managerial ownership	0.017 (0.019)	0.014 (0.035)	0.016 (0.038)
Firm size	0.085*** (0.003)	0.146*** (0.006)	0.149*** (0.006)
Slack resources	– 0.072* (0.039)	– 0.126* (0.071)	– 0.094 (0.077)
Sales growth	– 0.018*** (0.006)	– 0.030*** (0.011)	– 0.031** (0.012)
NPM	0.075*** (0.016)	0.132*** (0.030)	0.126*** (0.033)
Leverage	– 0.002*** (0.001)	– 0.003** (0.001)	– 0.003** (0.001)
Stock exchange	– 0.019*** (0.006)	– 0.053*** (0.011)	– 0.054*** (0.012)
Constant	– 2.143*** (0.069)	– 3.590*** (0.128)	– 3.545*** (0.139)
Industry dummies	Included	Included	Included
Year dummies	Included	Included	Included
Observations	8152	8152	8152



Table 5 continued

Dependent variables	Simple score Model 1	Social sustainability Model 2	Environmental sustainability Score Model 3
Number of stock codes	1165	1165	1165
Log likelihood	– 398.1	– 5396	– 6083
Wald Chi square	2251***	1880***	1637***
<i>F</i> -prob	0	0	0

This table shows the panel data GLS estimates for sensitivity analysis. The dependent variables are “simple score” in Model 1, “social sustainability score” in Model 2 and “environmental sustainability score” in Model 3. The independent variables are state ownership (%) (percentage of state-owned shares to the total number of shares), institutional ownership (natural log percentage of institutional ownership to total shares), block ownership (natural log of largest shareholding rate in the firm), board size (natural log of the total directors), board composition (percentage of independent non-executive directors to the total directors) and CEO duality (dummy variable which has a value of “1” if CEO and chairman are same person and “0” otherwise). Control variables are FAI, i.e. firms advertising intensity (ratio of selling, general and administrative expenses to total sales), managerial ownership (percentage of shares held by directors to total shares), firm size (natural log of firm’s total assets), sales growth (percentage of present year’s sales minus preceding year’s sales to preceding year’s sales), slack resources (total cash flows from a firm’s operating, financing, and investing activities by firm’s total assets), NPM (net profit divided by net sales), leverage (ratio of total debts and total assets) and stock exchange (dummy variable equals to “1” if firm is listed on “Shanghai Stock Exchange” and “0” if firms is listed on “Shenzhen Stock Exchange”). Further, industry dummies (for all eight industries), year dummies (for 8 years from 2008 to 2015), log likelihood, Wald Chi square and *F*-prob (*F*-probability) are given. Standard errors are given in parentheses

***, ** and *significance at 1, 5 and 10%, respectively

this study is also relevant because a CSR awareness programme was promoted in Chinese markets in early 2007 and 2008 by the introduction of CSR regulations and guidelines by the two most important stock exchanges, i.e. SSE and SZSE. These guidelines provided a platform to the Chinese listed firms to actively participate in CSR practices and disclose such activities in their sustainability, and CSR reports. The empirical findings of this research highlight that the high percentage of state ownership in the Chinese firms results in low level of CSR disclosure. This signifies the barriers that government involvement in the companies has created against the promotion of CSR activities and disclosure. Firms are less motivated to disclose CSR practices due to ownership stakes of government, and they fail to comply with the guidelines of regulatory bodies. Contrary to this, the study reveals that the inclusion of institutional owners and independent board of directors, and large board size in the organisations leads to increased CSR disclosure and adherence to the CSR guidelines. The study also unveils that the increased block ownership is associated with a reduction in CSR disclosure due to the shift in priorities of management towards the realisation of extra profits for the owners.

Future studies can utilise advanced indicators of CSR performance from China, e.g. RKS ratings for a

longitudinal dataset so that empirical investigation can be done from the perspective of CSR performance ratings too which was a limitation of this study. Finally, the empirical findings of this study have significant implications for government, regulatory bodies, policymakers, corporations and professionals in China as well as in other countries. China has become a centre of attention for the whole world due to its tremendous GDP growth and production capacity over the last two decades. This pace of economic growth and prosperity has resulted in some environmental concerns across the country. The findings of this study enable the policy makers to design the CSR-related guidelines more realistically and to develop the corporate governance structure (boardroom practices, transparency in accounting systems, etc.) in such a way that will enhance the engagement of firm in CSR-related activities and disclosure. Though Chinese financial market is now more open to the Western markets still, the involvement of government in the enterprises has curtailed some important aspects of social performance, e.g. CSR disclosure, which is evident from the findings of our study. State ownership in Chinese firms should be restricted to a certain limit so that firms can operate freely to an enhanced extent and engage more efficiently in CSR activities.



Appendix: Items related to CSR practices and disclosure given on CSMAR database

S. no	CSR disclosure item	Nature of disclosure and weights assigned
01	Whether or not donations made during the year by the corporation	Quantitative disclosure classification (assigned weight of 3 in case of disclosure otherwise 0)
02	Referring to GRI sustainability reporting guidelines or not	Qualitative specific disclosure classification (assigned weight of 2 in case of disclosure otherwise 0)
03	Third-party assurance service for CSR information and report	
04	Disclosing environment and sustainability or not	
05	Disclosing public relations and social and public welfare or not	
06	Disclosing social responsibility system construction and improvement or not	
07	Disclosing deficiencies of company or not	
08	Disclosing protection of shareholder interests or not	Qualitative general disclosure classification (assigned weight of 1 in case of disclosure otherwise 0)
09	Disclosing protection of creditor interests or not	
10	Disclosing protection of employee interests or not	
11	Disclosing protection of supplier interests or not	
12	Disclosing protection of interests of clients and consumers or not	
13	Disclosing safety production or not	

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