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**The Influence of the Government on Corporate Environmental Reporting
in China: An Authoritarian Capitalism Perspective**

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The Influence of the Government on Corporate Environmental Reporting in China: An Authoritarian Capitalism Perspective

Abstract:

This study uses panel data to investigate the different roles of the Chinese government in influencing companies' decision making about corporate environmental reporting (CER) via a two-stage process. The results show that the Chinese government appears to mainly influence the decision whether to disclose or not, but has limited influence on how much firms disclose. The results also show that the traditional model of authoritarian capitalism (under which state-owned enterprises [SOEs] are the major governance arrangement) is transforming into a new model. In the new model of authoritarian capitalism, the Chinese government uses newer, more sophisticated tools to manage both state-owned and non-state-owned companies. In addition, these new governance arrangements appear to be more efficient than the traditional model. The findings of this study have implications for both the Chinese government and for Chinese companies, as well as making important contributions to the literature and knowledge of CER in China.

Keywords:

Authoritarian capitalism, Chinese government, corporate environmental reporting, institutional theory, panel data

The Influence of the Government on Corporate Environmental Reporting in China: An Authoritarian Capitalism Perspective

In recent years, Chinese firms have increasingly been practicing environmental reporting indicating a potential change in their consideration of being environmentally responsible (Dong, Burritt, & Qian, 2014; Gao, 2011; Tilt, 2016). However, the influences on this increasing trend are not clear. Previous studies in developed countries have found that drivers of corporate environmental reporting (CER) are diverse and are in many ways competitive in terms of the resources they demand from companies. Although it has moved toward a more capitalist orientation, the Chinese institutional setting is still largely characterized by authoritarian capitalism, in which the Chinese central government, local governments, and the Chinese Communist Party do not merely play the role of regulators but act in other significant ways in the Chinese business system (N. Lin, 2011). Recently, the government has been instrumental in encouraging environmental reforms, as the scale of environmental degradation that has come with the rapid economic growth of the country is significant. As such, the Chinese government is an important driver in motivating CER, but the nuances of its influence have not been studied in detail.

Although recently more scholars have begun to consider government influence on CER, they generally either point out that the Chinese government has had a positive effect on CER (Xun, 2013), or only focus on its control over state-owned enterprises (SOEs; Dong et al., 2014; Lu & Abeysekera, 2014). Given that the Chinese government has a complex role in the country's politics and economics, it may not be appropriate to consider solely its influence through this kind of shareholding. Therefore, this study attempts to narrow this gap by

exploring the different roles of the Chinese government in influencing CER. Specifically, this article has three related aims:

1. to determine whether there is any association between the Chinese government and the decision to provide CER,
2. to examine what are the specific roles the Chinese government plays in influencing CER, and
3. to examine the efficiency of the roles the Chinese government plays in influencing CER.

The article makes the following three important contributions. First, it unpacks the decision-making processes for listed Chinese firms in terms of CER, an important aspect of corporate social responsibility (CSR), by investigating the influence of the state on companies' decision making about CER via a two-stage process. Most prior studies of CER consider only volume, but in this study, the initial decision about whether firms choose to disclose any environmental information or not is considered first. Then, for those companies that do choose to disclose environmental information, the extent of that reporting is investigated. Second, it adds to the limited number of studies that apply institutional theory in government-dominated transitional emerging economies, in this case, the authoritarian capitalistic context of China. Specifically, it answers the call for further research to be conducted on how the Chinese government deploys CSR for governance purposes. We find that unlike Matten and Moon's (2008) prediction that in government-dominated transitional economies where business' roles and responsibilities are delineated by regulation (Miller, 2005), the evidence from CER in China paradoxically shows that greater emphasis is given to explicit CSR. Although this is

ostensibly similar to what Matten and Moon (2008) observed among European states in the early 2000s, the nature of the explicit CSR in China is different, whereby the Chinese government uses newer, more sophisticated tools to compel Chinese firms to *voluntarily* engage in *explicit* CSR largely through coercive isomorphism. This leads to a related third contribution of this study, in that, unlike existing research that points to increasing government influence (Marquis & Qian, 2014; Xun, 2013) and normative pressures leading to more substantive reporting (Zuo, Schwartz, & Wu, 2017), we find that there are limits to these influences and pressures in the Chinese context, as firms are mainly engaging in CER due to the government's incentivizing influence. The main mechanism for normative isomorphic pressures for explicit CSR is from international influences.

Theoretical Framework and Study Context

CSR, CER and the Role of Government

A number of studies attempt to explore where the pressures for forcing any given level of information disclosure come from (Damak-Ayadi, 2010; Holcomb, Upchurch, & Okumus, 2007; KPMG, 2008). However, most of these studies are based on contexts of more developed economies with free-market and democratic institutions, and where voluntarism is the generally accepted principle to frame and understand CSR activities (Dentchev, Haezendonck, & van Balen, 2017). As such, the role of government in encouraging CSR has been studied less and has not been discussed adequately "in theoretical and conceptual terms" (Gond, Kang, & Moon, 2011, p. 641).

Scholars note, however, that the role of government in encouraging CSR is important (Abländer & Curbach, 2017; Dentchev, Haezendonck, & van Balen, 2017; Fox, Ward, &

Howard, 2002; Steurer, 2010). Lepoutre, Dentchev, and Heene (2007) recommend that government should intervene to reduce the substantive, strategic, and institutional uncertainties associated with CSR. Aßländer and Curbach (2017) believe corporations and government have a joint responsibility in addressing social issues. Corporations are “intermediate actors in society bearing a subsidiary co-responsibility,” and the role of government is to engage and supervise corporations in task sharing in society (Aßländer & Curbach, 2017, p. 628). However, most of these discussions see a government’s role as that of a regulator only.

Others argue that governments’ roles in steering CSR can vary. According to Fox and colleagues (2002), there are four roles of governments in engaging with CSR: (a) mandating, (b) facilitating, (c) partnering, and (d) endorsing. In a later study, Steurer (2010) further classified public policies on CSR as informational instruments, economic instruments, legal instruments, partnering instruments, and hybrid instruments. Different governments will use different CSR policy instruments. “While some countries and actors still frame and pursue the concept in line with neo-liberal ideas, many others have developed CSR activities further into co-regulatory arrangements . . . ” (Steurer, 2010, p. 66). The different government–CSR relationships make the political underpinnings of CSR more complex. In particular, in an authoritarian capitalist country, such as China, the government’s influence on CSR is more complex and widespread and a more nuanced consideration of this context is essential for clearer understanding (Hofman, Moon, & Wu, 2017; Tilt, 2016). The environmental aspect of CSR is particularly important in China as its accelerated economic growth has brought with it a number of environmental crises (Albert & Xu, 2016). Although CSR encompasses responsibility for society broadly, this article examines a specific subset, namely, CER.

Institutional Theory and National Differences in CSR/CER

Institutional theory has been argued to be an appropriate lens for understanding and explaining the differences between different national economies on how external factors influence firm CSR decision making (Matten & Moon, 2008). Institutional theory originally focused on the implicit aspects of institutional beliefs, myths, and rules and the processes through which shared meaning was formed (Selznick, 1996). This was further developed by Meyer and Rowan (1977) and DiMaggio and Powell (1983), through what is now known as *new institutional theory*, which emphasizes the heterogeneous nature of these institutional processes, and how these processes explain differences between organizations. It explains how organizations may aim to attain legitimacy within their larger contexts by becoming more similar over time due to the ecological process of isomorphism (DiMaggio and Powell, 1983; Mizruchi & Fein, 1999; Whelan & Muthuri, 2017; Zhao, 2012). It also explains how organizations “adapt themselves to what is more common in the specific cultural and economic contexts” (Kolk, Hong, & van Dolen, 2010, p. 301).

Matten and Moon (2008) argue that different national institutional frameworks (where the government–CSR relationship is one of the most important features) contextualize different approaches to CSR. For example, in the United States where government intervention in the market is relatively less, CSR tends to be more explicit, “rather than reflecting either governmental authority or broader formal or informal institutions” (Matten & Moon, 2008, p. 409). However, in Europe, as “formal, mandatory, and codified rules or laws define the responsibility of corporations and other governmental and societal actors for particular social issues,” CSR tends to be more implicit (Matten & Moon, 2008, p. 413). The differences can be

explained by the different National Business Systems (NBS) in which the power of the state is a key feature (Matten & Moon, 2008).

Although Matten and Moon's (2008) framework is applied to explain the differences in CSR as an explicit/implicit element in the institutional framework of the United States and Europe, there has been less of a consensus in its application beyond that. Some, taking a narrower interpretation of the framework, have argued that the position of traditionally *state-centric* countries such as China is beyond its scope and that there is a need for a different type of theoretical base (Kolk & Tsang, 2017). In contrast, others have adopted a wider interpretation and note that although Matten and Moon did not explicitly address the less developed or government-dominated economies, an extension of their framework is relevant beyond the United States and Europe. These authors suggest differences in CSR practices can be explained by considering the specific character of capitalism in these countries through the differences in NBSs (Hofman et al., 2017). This is because, as Dentchev, Haezendonck, & van Balen (2017) argue, the institutional context of nation states still largely determines what CSR means for organizations. This approach has been adopted by a number of recent studies, including some that were published in the recent special issue of *Business & Society* on CSR in China: Perspectives and Evidence (Hofman et al., 2017; Yin, 2017; Zuo et al., 2017).

We concur with Hofman and colleagues (2017), in that, given the understanding of CSR's core characteristics in China is still limited, there is value in applying Matten and Moon's framework. Although the Chinese model is more similar to the traditional European one, the Chinese state government's power in shaping the institutional framework could be seen as much stronger and more holistic when compared with either the United States or Europe (Hofman et al., 2017). The Chinese exercise of state power is different from that of traditional

European economies, in that, it has a different NBS as a transition economy characterized by authoritarian capitalism, which is a form of state capitalism (elaborated on further below).

Therefore, in this study, we attempt to explore the dominant institutional link (which is created by the Chinese state government) between corporate governance and CER that is largely explicit in nature. In doing so, we suggest an addition to Matten and Moon's (2008) framework to extend the spectrum beyond *liberal* and *coordinated* market economies to include those with state-*controlled* markets. In addition, we find that unlike Matten and Moon's prediction that in government-dominated transitional economies, business' roles and responsibilities are delineated by regulation (Miller, 2005), the evidence from CER in China shows that greater emphasis is given to explicit CSR, albeit different from other, especially developed, economies.

From State Capitalism to Authoritarian Capitalism

Political economists have, for some time now, been grappling with the differences among different nations in terms of how governments and economic institutions interact with other market players in delivering economic performance and that understanding institutional variation is especially important in understanding the different varieties in capitalism (Soskice & Hall, 2001). Although the initial studies mainly looked at developed economies, the rapid economic rise of countries that have significant government involvement in enterprises (e.g., Singapore, China) has challenged the traditional notions of capitalism, leading to the development of state capitalism as one of the varieties of capitalism.

According to Bremmer (2010), state capitalism is "a form of bureaucratically engineered capitalism particular to each government that practices it. It's a system in which the

state dominates markets primarily for political gain” (p. 250). Under a state capitalist system, government intervention is strategic in nature and markets are used for the benefit of the nation (Ma, 2011). Instead of eliminating markets, governments try to harness them for their own purposes (“State Capitalism,” 2012). It depends on the government to pick winners and promote economic growth. It also uses capitalist tools such as listing state-owned companies on the stock market and embracing globalization (“State Capitalism,” 2012). Although a state capitalist economy is different from a command economy, where the government directly exerts day-to-day control, the government still has considerable direct influence over the economy and companies’ strategies (Bremmer, 2010).

Research has subsequently shown that there are also major variations among the countries that practice state capitalism (Li, Cui, & Lu, 2014; Musacchio & Lazzarini, 2012). Within these, China is unique in terms of its linkages and coordination within a party–government–military–economy regime (N. Lin, 2011). The experience of China, with its one-party state with large SOEs, has fascinated scholars who have called it various names, including *managed capitalism* (N. Lin, 2011) and *capitalism with Chinese characteristics* (Peck & Zhang, 2013). We have followed Witt and Redding (2014) and Hofman and colleagues (2017) in characterizing China’s NBS as *authoritarian capitalism*.

This study takes the view that even though China’s economy is now moving toward being more market oriented, companies’ decision making is still largely driven by the Chinese government (Whelan & Muthuri, 2017). However, that influence has moved beyond the use of only shareholding (state ownership) to embrace other forms of influence. As a part of corporate governance strategy, CER is, therefore, substantially affected. This is consistent with the view of authoritarian capitalism, and has been argued to be an effective institutional framework for

understanding CSR in China (Hofman et al., 2017). Although Hofman and colleagues (2017) focused on the Chinese political, financial, education, labor, and cultural systems, they note that further research should be conducted on how the Chinese government deploys CSR for governance purposes as well as acts as the main mediator to society for business. Our study attempts to partially fill this gap by focusing on an aspect of Chinese authoritarian capitalism, in that, the government leads the market, and tries to use capitalist tools to achieve its political aims. This results in the government applying three types of power to influence CER, which are discussed below as hypotheses are developed for each.

Hypothesis Development

This study argues that the Chinese government's influence on CER is applied through three main roles: as regulator (regulating influence), shareholder (shareholding influence), and market motivator (incentivizing influence). To test whether and how these governmental influences are operationalized, three hypotheses are developed.

Regulating influence

Since 2005, the Chinese central government has been trying to shift China's economy to become more sustainable and, hence, is using its political power to influence this shift. Facing environmental problems, a new political commitment of building up a harmonious society was introduced by China's then chairman, Hu Jintao. As a result, environmental issues or a green policy was introduced as the nation's priority, and CER is one of the plans that has been put into effect. Consequently, the Measure of Disclosing Environmental Information (MDEI) was enacted in May 2008, and this has been further strengthened by a series of guidelines. When China changed its leadership under Xi Jinping in 2012, environmental

protection was emphasized even more. To create a green economy, the government decided to strengthen environmental regulations and laws. Subsequently, in 2015, the Environmental Protection Law was substantially revised, with a new chapter on information disclosure and public participation. On January 1, 2018, the Environmental Protection Tax Law went into effect. Furthermore, in June 2017, the China Securities Regulatory Commission (CSRC) and the Ministry of Environmental Protection (MEP) jointly signed the cooperation agreement on jointly enforcing environmental information disclosure of listed companies. The agreement aims to improve listed companies' environmental disclosure system, promote listed companies to consider their accountability, and implement their environmental responsibilities. It is expected that this will result in a stronger coercive effect on companies' decision making in terms of CER.

Moreover, in China, the Shanghai Stock Exchange (SSE) is an important source that provides guidelines for its listed companies. Although the SSE is not a government agency, the Chinese government's impact on it is significant, as the SSE was developed, owned, and controlled by the Chinese government (Wang, 2007). Therefore, the requirements of the SSE will reflect the Chinese government's policy. As the *green policy* was introduced as the nation's priority, the SSE offers incentives to listed companies to promote CSR. For example, those companies that do so will be given priority election into the SSE corporate governance sector.¹ Being selected into the corporate governance sector may "simplify the requirements for examination and verification of temporary announcements" (Sustainable Stock Exchanges Initiative, 2013). Since 2008, the SSE has required that companies that comprise the corporate

governance sector should release a stand-alone CSR report. As a result, it is expected that companies that are in the corporate governance sector will disclose more CER.

Based on the discussion above, the hypotheses to be tested are as follows:

Hypothesis 1a: The Chinese government's regulating power has a positive effect on companies' decision whether or not to disclose environmental information.

Hypothesis 1b: The Chinese government's regulating power has a positive effect on the extent of CER.

Shareholding influence

One of the most important characteristics of the authoritarian capitalism model is that SOEs play an instrumental role in society (Du & Wang, 2013). For example, Norwegian SOEs hold 37% of the Oslo stock market, but they also control some nonlisted giants such as Statkraft, a power generator, which if listed would be the third biggest company on the stock market ("Norway: The Rich Cousin," 2013). Similarly, the Singapore government also owns controlling shares in many government-linked companies and directs investment through sovereign wealth funds (Shatkin, 2014).

In China, the state exerts shareholder power over SOEs through the State-Owned Assets Supervision and Administration Commission (SASAC). Despite reforms to the SOEs, in which the state is now not the only share-holder, it is still significantly involved in the ownership and governance of the restructured enterprises, an inevitable feature of transition economies (Y. Lin & Zhu, 2000). SOEs are deeply embedded in the Chinese government's bureaucratic structure. The SASAC, which is directly under the State Council, is responsible for managing SOEs, including appointing top executives and approving any mergers or sales of stock or assets, as well as drafting laws related to SOEs. Hence, the Chinese government

still controls SOEs through their shareholdings, despite the reforms. As the biggest shareholder of SOEs, the Chinese government can use SOEs as tools to achieve its political and social goals. In China, the role of SOEs is more than just business; SOEs play a key role in helping the Chinese government to implement its policies. It is argued that Chinese SOEs' decision making is guided to align with the interest of the Chinese government (Whelan & Muthuri, 2017). As environmental protection has now become part of the nation's priority, it is expected that SOEs will provide more environmental information than non-SOEs.

At the same time, not to lose control, the Chinese government, or its controlled entities, will hold at least 50% of the shares of a company, and these are nontradable in the share market. Therefore, if a company has non-tradable shares held by the state, there will be more control from the Chinese government over the company. With the change in the nation's priorities to include the environment, those companies may disclose more environmental information.

However, the relationship between different levels of government and firms in terms of CSR or environmental policy has not really been studied. In the study of the interactions between central and local governments in China in the execution of policy with regard to small cars and sustainability, Kolk and Tsang (2017) found there are conflicts of interest between the central Chinese government and the local Chinese governments, which could weaken efforts to support CSR. Despite these findings, many studies have either combined the different levels of government into an entity called the *state* or have mainly focused on the influence of the central government, thereby ignoring the nuances of power and influence exercised by the local or provincial governments (Hofman et al., 2017; Marquis & Qian, 2014). Therefore, in this study, in an attempt to tease out the differences in influence exerted by the central and local governments, SOEs are separated into two groups for analysis: central SOEs (of which the central Chinese government is the controlling shareholder) and local SOEs (of which the

different local Chinese governments are the controlling shareholders). The following hypotheses are tested:

Hypothesis 2a: The Chinese government's shareholding power has a positive effect on companies' decision whether or not to disclose environmental information.

Hypothesis 2b: The Chinese government's shareholding power has a positive effect on the extent of CER.

Incentivizing influence

As mentioned earlier, rather than eliminate the market, an authoritarian capitalist economy uses the market as a tool to realize its political goals. A range of market-based instruments, charges, and incentives are used as tools to promote environmental protection. According to the requirements of the 11th Five-Year Plan of the State's environmental protection policy, about 1.35 trillion RMB, which counts as 1.35% of each year's GDP, were to be invested in environmental protection programs. China has grown to be a significant investor in clean energy, which can generate 25% of the world's clean energy power (Pew Charitable Trust, 2010). In addition, according to the MDEI, companies that are willing to provide voluntary environmental information could be given priority in gaining government-funded environmental protection projects, other government-funded projects, and rewards. In the newest Five-Year Plan (2016-2020), environmental protection remains one of the key areas. Accordingly, the State council issued the *13th Five-Year Plan on Ecological Environment Protection*, in which it clearly states that the government should increase their financial capital investment to protect the environment. According to the MEP's 2017 budget, it planned to spend 1.4 billion RMB on energy saving and environmental protection, which accounts to more than 80% of its public budget expenditures. At the same time, the government promotes green

finance. By the end of June 2016, the green credit balance of 21 Chinese banks totaled 7.3 trillion RMB (Cai, 2017). It is, therefore, hypothesized that there will be a positive relationship between CER and the government's economic incentives as follows:

Hypothesis 3a: The Chinese government's economic incentives have a positive effect on companies' decision whether or not to disclose environmental information.

Hypothesis 3b: The Chinese government's economic incentives have a positive effect on the extent of CER.

Research Method

Sample

All the companies from the SSE's 180 Index (SSE 180) were chosen as sample companies. This sample was chosen as previous studies (Situ & Tilt, 2012) have found that size is one of the determinants of CER in China. To mitigate the size effect, this study only examines SSE 180 companies. In addition, according to the China Securities Index Co., Ltd. (2012), the SSE 180 is "a benchmark index reflecting the Shanghai market and serving as a performance benchmark for investment and a basis for financial innovation." Finally, SSE 180 companies are widely used in studies where listed companies are examined in the Chinese context. For example, Koutmos (2012), Xu and Lin (2016), and Grimminger and Benedetta (2013), all use the SSE 180 in their studies.

Panel Data

Panel data analysis is used as it gives the researcher a large number of data points, increasing the degrees of freedom and reducing the colinearity among explanatory variables. The panel used refers to the same SSE 180 companies for the period 2007 to 2011. As some companies

were only listed after 2007, and the analysis aimed at following the same companies over the 5 years, the final sample was based on the 180 unique companies listed in 2011. This results in 815 observations over the 5 years, or an unbalanced panel, as shown in Table 1.

<Table 1 is approximately here>

All companies listed on the SSE provide their reports in Chinese and only some (i.e., those listed overseas) issue English reports. Therefore, only the Chinese versions of the reports are examined for consistency. In addition, the lead researcher is a native Chinese speaker and, therefore, was able to read the Chinese reports. Both annual reports and stand-alone CSR reports of sample companies are included in the analysis.

The period 2007 to 2011 was chosen as this period saw many new environment-related regulations, policies, and guidelines enacted in China. In particular, the MDEI and SSE guidelines were issued in 2008. Correspondingly, there was a boom in environmental reporting by SSE 180 companies in 2008. Moreover, a number of recent studies (Kolk & Tsang, 2017; Whelan & Muthuri, 2017) use a similar period to examine the relationship between the Chinese government and the CSR activities. Hence, studying changes to environmental reporting during this period can provide typical evidence to test the influence of the Chinese government on CER.

Although examining a longer time period may be helpful, it does not appear so in terms of environmental reporting. As shown in Figure 1, the reporting significantly increased in 2008, then became flat in the following years. Therefore, it is expected there will be no obvious difference in more recent years. Some other studies examine CER in more recent periods, and confirm this trend. For example, the Environmental Responsibility Disclosure Evaluation Report of Chinese Listed Companies reported that during 2013 to 2015, 665 (26.46% of all

listed companies), 708 (27.1% of all listed companies), and 747 (26.62% of all listed companies) listed companies, respectively, chose to disclose an environment report. They also argue that the quality of CER in 2015 is similar to that of 2014, which shows that CER in China is still under development (Chen & Liu, 2013, 2014, 2015). More recently, the Centre for Environmental Economic Studies of Fudan University (2017) examined 174 heavy polluted companies listed on the SSE, and found that the quality of CER increased slightly, with an index is 36.34, 39.67, and 41.52 in 2014, 2015, and 2016, respectively.

To confirm that our sample followed a similar trend to these studies, we also randomly collected a small sample of 10 companies from 2012 to 2014. There was little change in the number of disclosing companies (seven companies chose to disclose environmental information in the annual report and seven companies chose to disclose environmental information in a CSR report, which is exactly the same proportion as in 2011). Although there is some indication that the average number of words in CSR reports increased in 2014, overall, there was no significant difference to the levels found in the earlier period as shown by independent t testing, which is conducted in line with similar CSR studies to test whether there are differences between the two groups of data (see, for example, LaGore, Mahoney, & Thorne, 2011, who use a t test to test whether there are any differences in CSR 2 years before and after the financial restatement was announced). A *t* test was employed to examine whether there were major changes to the extent of the reporting in later years (2012-2014). As seen in Table 2, the result shows a significance level of .716, which indicates that there is no significant difference between the distribution of the total number of disclosing words in 2011 and those in 2012 to 2014. Thus, it indicates that there have not been major changes to the reporting (both in terms of selection and extent) in more recent years.

<Table 2 approximately here>

Dependent Variables

The dependent variable is the extent of environmental information that is disclosed by the Chinese companies. It is measured in terms of total disclosure (both annual and CSR reports), disclosure in only annual reports and disclosure in only CSR reports. Total disclosure (total) is defined as the number of words on environmental information in the annual reports and CSR reports of a company, obtained by using NVivo. First, a text search was performed by using the key words: 环境 (environment), 生态 (ecology), 自然 (nature), 绿色 (green), 污 (pollution), 废 (waste), 减排 (emission reduction), 节能 (energy saving), and 环保 (environmental protection). Then, sentences near the key words were read; if the sentences were related to environmental information, the number of words that were used in CER was counted. Finally, the Matrix Coding function of NVivo was used to perform a word count.

Independent Variables

Pressure from the state is the specific factor that is examined in this study and is represented by a series of explanatory (independent) variables discussed in the hypotheses development above.

Regulating influence. Although there is currently no mandatory regulation for CER in China, there are a series of guidelines that have been released since 2005. These guidelines have been helpful in guiding companies to disclose environmental information (Situ & Tilt 2012).

The Guidelines on Environmental Information Disclosure by companies listed on the SSE and the Chinese CSR Report Preparation Guide (CASS) are the two guidelines that apply to all industries. Therefore, whether a CSR report complies with either guideline is used as two separate dummy variables to measure the regulating influence of the state. Finally, a variable

that measures whether a firm is part of the SSE's corporate governance sector (GOV) is included.

Shareholding influence. State ownership is measured as a dummy where all companies are divided into central state-owned enterprises (C-SOE), local state-owned enterprises (L-SOE), and non-state-owned enterprise (N-SOE). A C-SOE is a company that is controlled by the central SASAC, the Ministry of Finance, or other ministry, administration, bureau, and governmental institute at the central level. A company is an L-SOE if it is controlled by a local SASAC, local municipal government or administration, or bureau and governmental institute at the local level.

In addition, the percentage of nontradable shares held by the state, including the central and local government, is adopted to measure shareholding influence.

Incentivizing influence. In China, the debt market and stock market are under-developed, and thus government grants are a very important source of external finance (Du & Wang, 2013). Also, as outlined above, companies that have better CER are given priority in receiving environmental grants from the government. Therefore, incentivizing influence is measured by two variables: the total amount of government grants received by companies and the amount of government grants received by companies on environmental issues (i.e., environmental grants).

Control variables

Several control variables that are consistently shown to be related to CER in prior literature are included in this study. These include company financial performance, company size and industry. Moreover, Chinese companies are also becoming increasingly global in nature and therefore variables for dual listing and GRI registration are also included.

Financial performance. Deegan (2009) argues that the higher the profit earned by the firm, the greater the political cost they face. To reduce criticism that a company has excessive profit and does not pay a fair share to other parties, companies are more likely to disclose more information to legitimize themselves. Following Waddock and Graves (1997), this study uses return on assets (ROA) for the measurement of financial performance.

However, a reciprocal process between the outcome variable (word count) and an independent variable may result in an endogeneity problem. For example, the current financial performance of a firm might be endogenous to the extent of reporting: Higher reporting may cause a change in profitability, but current profitability may influence the level of reporting. A straightforward control for this problem is to use lagged values of the variable(s). One possible drawback of this is that when a lagged variable is a proxy for the variable of interest, the interpretation of coefficients may be more difficult. This drawback is not material in this case as lags are only necessary for control variables, not for explanatory variables. Thus, a 1-year lag of ROA is used, as previous years' performance has been shown to be related to environmental reporting.

Company size. Company size is highly positively correlated with CER (Museum, Francis, & Datta, 2010; Situ & Tilt, 2012). The larger the company, the more information will be disclosed to avoid public concern. Total assets is used in this study to control for the size of Chinese listed companies. For reasons discussed above for companies' financial performance, a lagged variable representing the previous year's total asset value is used to control for endogeneity.

Industry. Industry is also a variable that strongly affects CER. Previous studies (Dobbs & van Staden, 2011; Hackston & Milne, 1996; Parker, 1986; Solomon, Solomon, Norton, & Joseph, 2011) find that companies that are in an industry with consumer visibility, a high level of

political risk, or concentrated intense competition provide better CER. In this study, the industry code of each sample company was obtained from the list of industry categorizations issued by the CSRC. Consistent with past studies (such as Faisal, Tower, & Rusmin, 2012; Hackston & Milne, 1996), this study classified the industries based on the codes issued by the CSRC into high profile (including finance and insurance industry³) and low profile.

Dual-listed companies. Since 2002, more and more Chinese companies are being listed on foreign stock markets (Liu, 2006). As they have more restrictive CSR disclosure requirements, Chinese companies that are listed on foreign stock markets have to disclose more CER. For example, the United States' Securities and Exchange Committee requires listed companies to separately disclose environmental contingencies and environmental expenditures, and to disclose any information that may have impact on the company's financial position. Therefore, it can be inferred that overseas stock markets' requirements have some influence on Chinese CER. To test the influence on CER in China from foreign investors, whether a company has overseas listed shares (dual listed) is used as a proxy.

Dual-listed companies refer to those that are listed on both the SSE and offshore stock exchanges (such as the Hong Kong Stock Exchange). All sample companies' reports from 2007 to 2011 were read to determine the percentage of overseas listed shares. A company is classified as a dual-listed company if it has any overseas listed shares; otherwise, it is classified as an A-share⁴ company.

Registration with the GRI. A number of global organizations, such as international NGOs, the World Bank, the International Organization for Standardization (ISO), and the GRI attempt to exert influence on companies worldwide. The GRI provides one of the most popular

global guidelines for CER. It has a comprehensive structure, definitions, and indicators to help companies in preparing their CSR reports. Therefore, it is assumed that if a company has signed up to the GRI, it will disclose more environmental information. Whether or not a company has registered with the GRI is used as a proxy measure of influence from an international organization.

Analysis of Data

In this study, the companies' decision making about CER is treated as a two-stage process. First, the company makes a decision as to whether it will disclose any environmental information (of any kind, such as including it in the annual report or producing a separate report)—the selection process. The econometric model for selection is modeled as a limited dependent variable panel probit model (selection model). This model includes all companies in the data set. Then, for companies that do choose to disclose environmental information, the company decides how extensive the reporting will be - measured as the word count relating to CER. This second model, a linear panel random effects (RE; with Mundlak corrections) model (extent of reporting model), includes only those companies that have CER in either the annual report or a stand-alone CSR report.

Selection model. In this study, whether or not a company chooses to produce an environmental report can be classified as a binary, yes/no, outcome - where, by convention, yes is coded as 1 and no as 0. For a limited dependent variable, the binomial probit model is used.⁵ Both annual reports and CSR reports are examined, and following the outline of the limited dependent variable model, three selection equations are estimated as follows:

$$\text{Total_Select}_{it} = \beta_0 + \beta_1\text{staownedC} + \beta_2\text{staownedL} + \beta_3\text{stashareD} + \beta_4\text{envgraD} + \beta_5\text{stotgraD} + \beta_6\text{highprofile} + \delta_1\text{loglagtotass} + \delta_2\text{lagroa} + \lambda_1\text{loglagtotassmm} +$$

$$\lambda_2 \text{lagroamm} + v_{it} + u_i \quad [1]$$

$$\begin{aligned} \text{AR_Select}_{it} = & \beta_0 + \beta_1 \text{staownedC} + \beta_2 \text{staownedL} + \beta_3 \text{stashareD} + \beta_4 \text{envgraD} + \beta_5 \text{totgraD} \\ & + \beta_6 \text{highprofile} + \delta_1 \text{loglagtotass} + \delta_2 \text{lagroa} + \lambda_1 \text{loglagtotassmm} + \lambda_2 \text{lagroamm} + v_{it} + \\ & u_i \end{aligned} \quad [2]$$

$$\begin{aligned} \text{CSR_Select}_{it} = & \beta_0 + \beta_1 \text{staownedC} + \beta_2 \text{staownedL} + \beta_3 \text{stashareD} + \beta_4 \text{envgraD} + \\ & \beta_5 \text{totgraD} + \beta_6 \text{highprofile} + \delta_1 \text{loglagtotass} + \delta_2 \text{lagroa} + \lambda_1 \text{loglagtotassmm} + \\ & \lambda_2 \text{lagroamm} + v_{it} + u_i \end{aligned} \quad [3]$$

where Total_Select takes the value 0 for nonreporting companies and 1 if there is a nonzero word count relating to environmental reporting either in their annual reports or CSR reports; AR_Select takes the value 0 for nonreporting companies and 1 if there is a nonzero word count relating to environmental reporting in their annual reports only; CSR_Select takes the value 0 for nonreporting companies and 1 if there is a nonzero word count relating to environmental reporting in their CSR reports only; staownedC = 1 refers to central SOEs, 0 otherwise; staownedL = 1 refers to local SOEs, 0 otherwise; stashareD = 1 refers to companies that have nontradable shares held by the state, 0 otherwise; totgraD = 1 refers to companies that received government grants, 0 otherwise; envgraD = 1 refers to companies that received government grants related to environmental issues, 0 otherwise; highprofile = 1 refers to high-profile industries, and 0 refers to low-profile industries; loglagtotass = the natural logarithm total assets lagged by 1 year; lagroa = 1-year lag ROA; year is the same companies over 5 years are used in the panel model, therefore, sample years from 2008 to 2011 are included as dummy variables; csrD = 1 refers to a company that has environmental reporting in its CSR report, and 0 otherwise; arD = 1 refers to a company that has environmental reporting in its annual report,

and 0 otherwise.

The same companies over 5 years are used in the panel model, therefore, all sample years are included as dummy variables to consider the influence of time.

Extent of reporting model. The extent of reporting, measured by word count, is a continuous dependent variable, and, therefore, the linear model is used.

Two interpretations can be given to the coefficient representing the unobserved individual heterogeneity or the individual effects in the model. If they are assumed to be a normally distributed random variable (with unknown variance), the model is referred to as the RE model. In this model, an important assumption is that the individual (i.e., company) heterogeneity is independent of the explanatory variables. An alternative is to use an adjustment to the RE model. The Mundlak specification of the RE allows for potential correlation between the individual-specific effects and explanatory variables (Chamberlain, 1980; Mundlak, 1978). In this version of the RE, the individual or company (over time) means for each of the time-varying explanatory variables are included as additional explanatory variables—the Mundlak corrections. Once the correction is made, the RE panel estimator is unbiased, consistent, and efficient.

As both annual reports and CSR reports are examined in this study, following the outline of the linear panel RE (with Mundlak corrections) model, three equations are estimated as follows:

$$\begin{aligned} \text{Total_Extent}_{it} = & \beta_0 + \beta_1\text{staownedC} + \beta_2\text{staownedL} + \beta_3\text{stashareD} + \beta_4\text{envgraD} + \\ & \beta_5\text{totgraD} + \beta_6\text{CASS} + \beta_7\text{SSE} + \beta_8\text{GOV} + \beta_9\text{GRI} + \beta_{10}\text{oveshareD} + \beta_{11}\text{grantsstaown} + \\ & \beta_{12}\text{griosshare} + \beta_{13}\text{highprofile} + \delta_1\text{loglagtotass} + \delta_2\text{lagroa} + \lambda_1\text{loglagtotassmm} + \\ & \lambda_2\text{lagroamm} + v_{it} + u_i \end{aligned} \quad [4]$$

$$\begin{aligned} \text{AR_Extent}_{it} = & \beta_0 + \beta_1\text{staownedC} + \beta_2\text{staownedL} + \beta_3\text{stashareD} + \beta_4\text{envgraD} + \\ & \beta_5\text{totgraD} + \beta_6\text{CASS} + \beta_7\text{SSE} + \beta_8\text{GOV} + \beta_9\text{GRI} + \beta_{10}\text{oveshareD} + \beta_{11}\text{grantsstaown} + \\ & \beta_{12}\text{griosshare} + \beta_{13}\text{highprofile} + \delta_1\text{loglagtotass} + \delta_2\text{lagroa} + \lambda_1\text{loglagtotassmm} + \\ & \lambda_2\text{lagroamm} + v_{it} + u_i \end{aligned} \quad [5]$$

$$\begin{aligned} \text{CSR_Extent}_{it} = & \beta_0 + \beta_1\text{staownedC} + \beta_2\text{staownedL} + \beta_3\text{stashareD} + \beta_4\text{envgraD} + \\ & \beta_5\text{totgraD} + \beta_6\text{CASS} + \beta_7\text{SSE} + \beta_8\text{GOV} + \beta_9\text{GRI} + \beta_{10}\text{oveshareD} + \beta_{11}\text{grantsstaown} + \\ & \beta_{12}\text{griosshare} + \beta_{13}\text{highprofile} + \delta_1\text{loglagtotass} + \delta_2\text{lagroa} + \lambda_1\text{loglagtotassmm} + \\ & \lambda_2\text{lagroamm} + v_{it} + u_i \end{aligned} \quad [6]$$

where variables are as in the selection model; in addition, CASS = 1 refers to companies that indicated they used the CASS as a guideline to prepare their report, 0 otherwise; SSE = 1 refers to companies that indicated they used the SSE as a guideline to prepare their report, 0 otherwise; GOV = 1 refers to companies in the corporate governance sector, 0 otherwise; GRI = 1 refers to a company that has indicated that it used the GRI as a guideline to prepare its report, and 0 otherwise; overshare = 1 refers to dual-listed companies, 0 refers to A-share companies; grantsstaown6 is the interaction between the government grants received by the companies and the state ownership; and griosshare is the interaction between a dual-listed company and whether a company is registered on the GRI.

Results and Discussion

Trends over Time

Generally, CER by Chinese companies shows an increasing trend. Figure 1 shows the trends for the number of Chinese companies that disclosed environmental information over the study period. The results show a dramatic increase in 2008, but then show little further change.

<Figure 1 approximately here>

The most notable result in the trend analysis is that the number of disclosing companies significantly increased in 2008. To respond to the environmental protection commitment introduced in the early 2000s, the government implemented a series of regulations, policies, and programs to enhance companies' green performance in the mid-2000s, and it reached a peak in 2008, when the MDEI was enacted. No other laws regarding CER were enacted from 2009 to 2011. Thus, the preliminary results suggest that the Chinese government significantly influenced the decision to produce CER in China at that time through coercive isomorphism.

Summary of Findings

When considering the results of the panel modeling, the evidence for influence from the state indicates more complexity than has previously been considered. Generally, the findings show that the state influences companies' CER selection decision through its various roles (including using its regulating, shareholding, and incentivizing influences). Table 3 presents a summary of the statistics for the selection model, which show that staownedC , staownedL , envgraD , and totgraD have the expected sign with a significance level of $p \leq .05$. This indicates that the Chinese government tends to have a strong positive influence on Chinese companies' decision to undertake CER, in particular, in their annual reports.

<Table 3 is approximately here>

However, the findings show that the state's influence on the extent of CER is not obvious. Once a company has decided to undertake CER, the second stage of its decision-making process is to determine what, and how much, to disclose. Table 4 provides a summary of the results of the extent of reporting model, showing that most of the variables are not

significant. Only envgraD is significant for both AR_Extent ($p = .006$) and CSR_Extent ($p = .14$).

<Table 4 is approximately here>

It can be seen that the state's regulating influence only has an impact when considering total reporting (annual reports and CSR reports together). Regarding shareholding influence, contrary to findings in previous studies, the results indicate that being an SOE does not improve the level of CER, which only appears to be affected by the state's incentivizing influence. This result will be elaborated on in the following section.

Discussion of Hypothesis Tests

As noted above, the Chinese system is characterized by authoritarian capitalism. Although the government does not directly supply scarce resources or attach values to goods and services, it still has considerable control over companies. For example, the government can shape the overall market by managing its currency, directing money to favored industries, and working closely with Chinese companies abroad. Therefore, the Chinese government has sufficient power to be essential to Chinese companies' survival. To gain support and approval from the government, Chinese companies disclose environmental information that meets the requirements set out by state doctrine (Situ, Tilt, & Seet, 2016).

Although previous studies in more developed and free-market economies equate power with different stakeholders (Mitchell, Agle, & Wood, 1997), in an authoritarian capitalist country, such as China, the number of stakeholders is relatively limited (Dong et al., 2014). In this context, there is a single major stakeholder, the Chinese government, that plays different roles in motivating Chinese companies to adopt CER, and these manifest themselves as three

different types of stakeholder influence (regulating, shareholding, and incentivizing power) on CER. These are discussed below in relation to the findings of this study.

Regulating influence. In the selection models, CASS and SSE are not included as all companies that claim that they comply with state-issued guidelines when preparing their reports chose to disclose environmental information in either their annual report or CSR report. However, this itself indicates that the Chinese government's political power significantly influences Chinese companies' decision about whether to disclose environmental information. Similarly, the results show that all companies in the corporate governance sector have CER in either their annual report or their CSR report, as the SSE requires all companies that have been selected into the corporate governance sector to disclose environmental information. As such, Hypothesis 1a is supported. However, the results of the extent of reporting models show that both CASS and SSE are not statistically significant for either annual reports or CSR reports, which suggests that complying with state-issued guidelines does not improve the extent of CER. Moreover, companies in the corporate governance sector do not provide higher levels of CER than others. Therefore, Hypothesis 1b is not supported.

The results of the tests show that the Chinese government's regulating influence affects Chinese companies' decisions to disclose environmental information. This finding is consistent with previous studies that indicate that the government can influence companies' decision making via promulgating laws and regulations. However, the findings further show that, the Chinese government's regulating influence does not appear to strongly affect the volume of information that companies choose to include, suggesting that it does not influence the level of detail or the amount of voluntary information included in voluntary CSR reports. Hence, this

may imply that the quality of reporting is not significantly improved by state regulation. Further study into the content of the reports is, thus, warranted.

Shareholding influence. According to the Fortune Global 500 list (Cho & Pat- ten, 2007), in 2015, the top 12 Chinese companies are all SOEs. Of the 98 Chinese companies on the list, only 22 are private. The Chinese government was, thus, significantly involved in the ownership and governance of SOEs as a controlling shareholder. As green reporting becomes a major program in the state's environmental governance, this study hypothesized that there is a positive relationship between state ownership and CER in China.

The results show that both central and local state ownership significantly and positively influence companies' decisions about whether to disclose CER. However, state ownership only influences companies' choice to include CER in their annual reports, but not in their CSR reports. For annual reports, industry is also significant, suggesting potential interaction with state ownership; however, this is not the case as industry profile is distributed evenly across central, local, and non-SOEs. It is noted that the annual report is the main tool for companies to communicate with their shareholders, and only those more advanced companies issue stand-alone CSR reports to communicate with wider stakeholders. As the Chinese government (both central and local) is the controlling shareholder of SOEs, it is not surprising to see it has more influence on SOEs' annual reports, rather than their CSR reports. Therefore, Hypothesis 2a is generally supported, in particular, in terms of annual reports. Surprisingly, the results of the extent of the reporting model show that for companies that chose to disclose environmental information, neither central SOEs nor local SOEs provided a greater extent of reporting than non-SOEs. This finding is not consistent with previous studies (Situ & Tilt, 2012), which found that state ownership is a very important determinant of the extent of the Chinese CER.

However, those studies included all companies (even those who chose to report nothing), when examining state ownership's influence, so their results may be misleading, as they do not distinguish between the influence on companies' selection decision and the influence on the extent of CER. In this study, the companies' CER decision-making process is considered as a two-stage process and, as such, it is clear that state ownership mainly influences companies' decision to disclose, and not the extent of disclosure, making an important contribution to the literature. *stashed* is also used as a proxy to measure the state's shareholding influence. Since the reform of SOEs in China, the Chinese government is not the only shareholder of SOEs; however, to maintain its voting power, the Chinese government holds a certain level of nontradable shares in SOEs. Although the results indicate there is a positive relationship between nontradable shares and CER, it is not statistically significant. Therefore, Hypothesis 2b is not supported.

In summary, in terms of regulating influence, the Chinese government's shareholding influence is found to significantly affect the companies' CER selection decision, but this does not necessarily result in a higher amount of CER. This suggests the awareness of CSR in China is still low. Companies appear to disclose environmental information just to address the Chinese government's requirements, rather than realizing the importance of being accountable and disclosing additional information that may be relevant to wider stakeholders.

Incentivizing influence. In response to the environmental problems resulting from Chinese economic development, "building up a harmonious society," where environmental protection is one of the important elements, has become the new political goal. It is hypothesized that the Chinese government will use market tools to achieve its new political promise. In this study, the total amount of government grants received by companies and the amount of government

grants received by companies for environmental issues are used to measure the Chinese government's incentivizing influence.

The results from the selection model show that both environmental grants and total grants influence the decision to disclose, when considering both annual reports and CSR reports. However, if annual reports and CSR reports are considered separately, the influence of total grants is not significant, and only environmental grants influence annual report disclosure. These results indicate that the Chinese government's incentivizing influence has little impact when companies are making the decision to provide CER in a separate CSR report, and implies that the annual report is still the main report used by Chinese companies to communicate with the Chinese government. Also, it is not surprising to see that the influence of environmental grants on CER selection is greater than for total grants, as companies that receive government grants are required to disclose to the government how they used the funding. Those companies that received environmental grants would, therefore, disclose how they used the grant to protect the environment. In general, the results indicate that Hypothesis 3a is supported mainly for annual report disclosure.

The results of the extent of the reporting model again show some differences to the selection model. Companies that received grants from the Chinese government do not provide higher levels of CER in either their annual reports or their CSR reports. However, if the government grants received were for environmental issues, companies will have more environmental information disclosed in both annual reports and CSR reports. That is, companies that received environmental grants are likely to have taken some environmental protection action using the grant funding, and, therefore, have more to disclose. It can be seen that compared with other influences, economic incentives that relate to environmental protection seem to be

a more efficient way to encourage Chinese firms to be more responsible and report more. In general, Hypothesis 3b is partly supported.

Contributions and Conclusion

This study investigates in more detail the influences on the increasing trend of CER in the context of an emerging economy that has few democratic and free-market institutions. There are three major contributions of the study that have implications for theory.

CER Decision Making as a Two-Stage Process

This study considers companies' decision making about CER as a two-stage process. In doing so, it is clear that the Chinese government appears to mainly influence the first stage—whether to disclose or not, but has limited influence on companies' decision at the second stage—how much to disclose. This adds a level of detail to our understanding compared with prior literature that mostly suggests a simpler relationship. This could also explain why previous studies have found that as the number of disclosing companies grows, the quality of the disclosure by companies is generally not high. That is, Chinese CER is still mainly driven by the Chinese government requirements, rather than due to companies themselves realizing the importance of doing business in an environmentally friendly way. This reinforces previous research that suggests that business organizations have a preference to engage in CSR with minimal effort and primarily for symbolic purposes (Stevens, Steensma, Harrison, & Cochran, 2005; Weaver, Treviño, & Cochran, 1999). Therefore, the CER is more likely a legitimacy tool to address the Chinese government's call to be more environmentally responsible. Ideally, corporations will go beyond reporting and window dressing, with the Chinese government putting in measures besides economic ones to fulfill its moral obligation to steer the CSR of businesses (Dentchev,

Haezendonck, & van Balen, 2017). However, our research findings suggest that the lack of public pressure and the perceptions of the government's level of control may lead to the employment of legitimizing strategies through firms' decision to report against government signals. Thus, Matten and Moon's (2008) framework could be extended to present a spectrum from liberal, through coordinated, to *controlled* market economies, as shown in Figure 2.

<Figure 2 is approximately here>

In contrast to free-market capitalist systems, where it is believed that stakeholders are diverse and each stakeholder exerts its own stakeholder power on companies' decision making, the stakeholder power of the government in China is much stronger and plays different roles in influencing CER. Supporting Fox and colleagues (2002), although this study found evidence of the influence of endorsing roles (e.g., through selection into the SSE's corporate governance sector), much of the influence of the government was through mandating (through regulating and shareholding influences) and incentivizing mechanisms such as government grants, with less evidence of the Chinese government acting in the partnering role. In a similar manner, our research found that based on Steurer's (2010) typology of CSR instruments, the Chinese government was mainly using a mix of informational instruments, economic instruments, and legal instruments in influencing CER, and had yet to progress toward partnering instruments and hybrid instruments. However, although the government's emphasis on environmental issues could encourage companies to pay more attention to their environmental activities and reporting, the amount of CER, and, therefore, most likely its comprehensive-ness and transparency, does not appear to have improved. Thus, CER is an *inculcated* element of the institutional framework of corporations.

Institutional Theory Applied in Authoritarian Capitalism

Roles of Chinese government. While prior literature has almost predominantly used state ownership as a proxy for state influence, the nature of that influence is much more complex and the nuanced in terms of what has been previously investigated. In particular:

- State influence manifests itself in three forms: regulating, shareholding and incentivizing.
- Regulatory influence is only effective in increasing the number of firms that produce some CER (rather than no reporting), but not in increasing the volume of CER.
- Shareholding influence only influences the choice to disclose in annual reports, not the extent of reporting or the use of CSR reports.
- Incentivizing influence, or the use of market incentives, appears to be a more efficient way to facilitate comprehensive CER.

It can be seen that the traditional model of authoritarian capitalism (under which SOEs are the major governance arrangement) is transforming into a new model. In this new model, the Chinese government uses newer, more sophisticated tools (such as issuing government grants, and developing guidelines) to manage both SOEs and non-SOEs. In addition, these new governance arrangements (in particular, incentivizing influences) appear to be more efficient than the traditional model (i.e. shareholding influence). This is in line with Backman, Verbeke, and Schulz's (2017) research which suggests that, using a resource based view of the firm, firms will adopt an increasingly proactive environmental management strategy if they can acquire resources and transform those into competences instrumental to competitive advantage and higher returns.

Chinese CSR is following the global trend to be more *explicit* in that “incentives and opportunities are motivated by the perceived expectations of different stakeholders of the corporation” (Matten and Moon 2008, p.416), in our case, the government being the main and sometimes only stakeholder.

Role of industry. According to the survey by KPMG (2011), industries “that have the greatest influence over society and the environment (such as certain sectors of the energy and natural resources industry) show a higher commitment to reporting than other sectors that may be seen as wielding less influence” (p. 12). Similarly, our study found that certain *strategic* industries (e.g., heavy polluting and financial) are more willing to report environmental information. However, we cannot determine the level of this influence relative to government as our model only includes industry as a control variable. This is a limitation of the study and an important area to consider in future research.

Limited evidence of mimetic isomorphism. In terms of whether a third isomorphic process, mimetic isomorphism, was at work, although our study finds evidence of coercive and normative isomorphism, whether companies copy each other or a lead company is hard to tell as the CER data show the growth happened at more or less the same time. There does not appear to be evidence of time lags and relatively different learning rates between early and late adopters, indicators of mimetic behavior between firms, as suggested by Lieberman and Asaba (2006) and Rosenkopf and Abrahamson (1999). Rather, the data suggest that the firms were responding to what appears to be a common external *shock* (Lieberman & Asaba, 2006), in this case, the introduction of government policies and regulations. It could be that firms were mimicking other firms as they had one or more boundary spanning ties as suggested by Galaskiewicz and Wasserman (1989), but if those ties were mainly related to the Chinese

government or the Chinese Communist Party, it is more likely that the other two aspects of isomorphism, especially coercive isomorphism, were at work. The strength of coercive and normative isomorphism in the Chinese context relative to mimetic isomorphism supports Mizruchi and Fein's (1999) argument that contexts matter (e.g., where there is less institutionalized power and coercion such as in North America), there is a disproportionate focus on mimetic isomorphism at the expense of normative and, especially, coercive isomorphism. Hence, this study contributes research that addresses the tendency to underplay issues of power and coercion that may be a uniquely North American phenomenon (Mizruchi & Fein, 1999).

International Influence of growing CER/ CSR

The only significant evidence of influence on the volume of CER is from international influences, as the control variables for dual listing and GRI registration are significant. Moreover, GRI registration is the only variable strongly significant for the extent of reporting in CSR reports, suggesting that the emergence of separate reports may be due to international influences. This also raises the possibility that the lack of competing interests between different stakeholders may diminish the reliability of CER, as companies are ultimately responsible to the government and not to a variety of stakeholders. As such, the government's objective to change the economy to include a more environmentally sustainable approach may be hard to achieve while maintaining a strong authoritarian capitalist system. Thus, the study provides some preliminary evidence that the influence of globalization is becoming more noticeable. Similar trends are found in other studies (Whelan & Muthuri, 2017; Yin, 2017). In addition, beyond GRI, Yin's (2017) and Whelan and Muthuri's (2017) studies found that other transnational pressures (e.g., the extent of embeddedness in the global production network,

international covenants, and intergovernment organizations) also contribute to shaping CSR in China. The Chinese economy is becoming increasingly globalized and, to operate within the competitive global environment, companies are expected to be responsible and must provide comprehensive CER. As such, the pre- vailing government power might be mitigated by the changing economic circumstances, with some evidence of *explicit* CSR. This global spread is noted by Matten and Moon (2008) as isomorphic forces putting pressure on companies. Therefore, explaining CER through an authoritarian capitalism lens may change over time and more evidence is needed through undertaking further research in this context, in particular, consideration of the power of cultural and ideological impacts that exist within a *state* capitalist system.

Summary

Overall, the study contributes to the development of institutional theory through the application of Matten and Moon's framework in an emerging transitional economy characterized by authoritarian capitalism. The Chinese model bears some similarities to the traditional European one identified by Matten and Moon in terms of European governments generally being more engaged in economic and social activity (Heidenheimer, Hecllo, & Adams, 1990), and finds further evidence to support Matten and Moon's conceptualization of explicit CSR differences, largely based on differences in NBS. However, there are important institutional differences, in that, the Chinese exercise of state power is different from that of traditional European economies—it has a different NBS as a transition economy and uses authoritarian capitalism. Paradoxically, although Matten and Moon (2008) had indicated that among transition European communist economies, with weak civil society and market institutions and dominant governments, there would be a slow and tentative development of explicit CSR. CER, as a

form of explicit CSR, has grown rapidly in China. Unlike in Europe, where part of the trend has been due to privatization, business deregulation, and market liberalization (Matten & Moon, 2008), the Chinese firms engaged in explicit CSR largely because of coercive isomorphism, whereby the Chinese government links incentives such as grants and contracts and access to resources to explicit CSR. Although the CER policies from the Chinese government do not take the form of traditional coercive explicit CSR based on hard law, regulations, or taxes (Steurer, 2010), the authoritarian capitalist institutional structures and environment mean that the incentives or ties that the state introduces do seem to point to a more nuanced and sophisticated implementation of CSR instruments that may be perceived by Chinese firms to be mandatory in nature.

Whereas both the European and Chinese explicit CSR are comparatively government driven, the differences in the Chinese political system and NBS mean that explicit CSR is mainly in the form of reporting, rather than real explicit action, leading to Chinese firms responding to government edicts. Based on the two-stage process of CER elaborated above, unlike existing research that points to increasing government influence resulting in more substantive reporting (Marquis & Qian, 2014), our research finds that there are limits to government influence and their effects on Chinese firms. In addition, the trends in Europe saw a move from dependence on government authority toward nongovernment aspects that incorporate soft regulation of CSR and emphasize partnership, facilitation, endorsement (Moon, 2004), and other studies have pointed toward normative pressures leading to more substantive CSR (Zuo et al., 2017). However, in terms of CER, our study does not find evidence to support this trend among Chinese firms, especially those operating mainly domestically. Furthermore, among firms seeking to gain access to capital outside China and gain

endorsement for entry into foreign markets, we find evidence of international normative isomorphic pressures, in the impact that rules of foreign stock exchanges have on dual-listed firms as well as registration on the GRI. To that extent, our study contributes to the call for research to understand better the dynamics of CSR (Hofman et al., 2017) by painting a more nuanced picture of the distinctive combination of the mainly coercive and normative isomorphic pressures that Chinese firms face.

Implications for Practice

The findings of this study have implications for both the Chinese government and for Chinese companies, as well as making important contributions to the literature and knowledge of CER in China.

For the Chinese government, the findings suggest that their emphasis on environmental protection appears to be having the desired effect, as more and more companies are willing to provide CER. However, although the number of firms producing CER in China is increasing, there are still gaps to be filled before Chinese CER reaches the reporting standards of major international firms from more developed economies. Similar to Zhao's (2012) finding of the influence of the political context and that CSR in China is more a politically embedded phenomenon, this study finds that the stakeholder power of the Chinese government is so strong that CER in China becomes a legitimacy tool for companies to demonstrate their adherence to the requirements of the government. This ultimately leads to low levels of reporting that meet minimal requirements. This reinforces some of the findings that Midttun, Gjølborg, Kourula, Sweet, and Vallentin (2015) found in welfare state-dominated economies, in that, in contrast to CSR/CER being a substitute for the welfare state (as proposed by Matten & Moon, 2008), the means promoted by CSR is more problematic in nations and cultures that have strong

government- directed institutional traditions, such as that of the Nordic countries and China. In China, it can be seen that the lack of other competitive stakeholders does not facilitate high-quality CER. Therefore, when determining policy, the Chinese government is unlikely to meet its aims unless it considers encouraging more stakeholders to take note of CER, such as through increasing public awareness of the issue(s), promoting green products to consumers, and encouraging more local NGOs to act as watchdogs.

For companies, this study suggests that they need to improve their accountability if their reporting is to be useful to the increasing number of stakeholders of Chinese CER, including overseas consumers and investors. That is, CER should not merely be a tool to please the Chinese government. There is a growing expectation that globally competitive companies should conduct their business in a more environmentally friendly way and, as such, Chinese companies need to consider this to compete effectively. Stakeholder power is dynamic, so along with globalization, there may be more competing stakeholder interests that appear for Chinese companies in the future; therefore, they will need to address other stakeholders' interests besides that of the Chinese government. The Chinese context will continue to provide a fruitful research ground to observe this phenomenon in the future.

Limitations and Future Research

There are, of course, possible alternative explanations for the results that are beyond the scope of this study. Some of these are alluded to in the discussion but require further research, such as the influence of the global rise in awareness of CSR, including in developing countries, and the role of mimetic isomorphism between firms and industries in China that has been found to be important in explaining the rise of CER in developed economies. Although these explanations cannot be ruled out entirely, the analysis in this article included some mechanisms

to control for these aspects, and the results indicate that government influence is most dominant. Further research is needed to explore these issues further.

Other limitations include that this study only uses SSE 180 companies as the sample. As a result, the sample comprises large-sized companies, and larger companies are believed to be more advanced in providing CER. Large companies also experience more influence from the Chinese government. Therefore, it may be inappropriate to generalize the results of this study to the CER of a wider group of Chinese listed companies, so a larger sample to confirm or refute these findings is warranted.

In addition, measurement of some variables, particularly dichotomous measurement, may prevent some important issues being teased out in depth. For example, the size of environmental grants may be significant, but this detailed level of information was not publicly available. Further research on this issue would shed more light on its impact.

Moreover, although the study shows that CER is mainly considered as a tool for firms to legitimize themselves in the eyes of the Chinese government, the evidence that international influence has started to have an impact on Chinese CER suggests this as an important area for further examination in the future, as China's economy continues to develop. Similarly, the influence of global organizations on Chinese firms warrants additional investigation.

Further research is also needed on the interplay between state and other influences. As noted earlier, alongside the move to a more market-oriented system, China retains its strong cultural identity of Marxism and Confucianism (Low, 2006; Tan, 1989). The moderating influence of these ideologies is an important aspect to consider and it has been suggested that they could be used to improve environmental conditions in the way they were used to support

economic reform (Lieber, 2013). Study of these ideological forces will provide even greater insights into the nuances of the production of CER in China.

Finally, we need to be careful in interpreting this phenomenon and extrapolating this to broader changes in terms of corporate responsibilities becoming *more explicit*. In this study, although, we find that ostensibly, although Chinese CSR may be becoming more explicit, but as the Chinese business and political systems are very different from other countries, the explicit CSR mainly takes the form of reporting rather than real explicit action. Although this suggests a sign of more explicit responsibility taking, it is possible that companies merely report more externally to respond to government requirements. Therefore, future research should investigate which topics are reported on as part of CER, as such, a fine-grained analysis would provide more nuance to the evaluation of the implicit/explicit framework. Although there was a lack of evidence of mimetic isomorphism, this could be because of the difficulty of finding this in annual and CSR reports, and further research could include interviewing/surveying those preparing the reports (e.g., company secretaries, auditors, accounting firms, annual report writers) to see whether any looked at how other firms in China were doing things.

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Notes

1. The Shanghai Stock Exchange (SSE) corporate governance sector was introduced in 2007, to significantly improve China's listed companies' governance mechanism and promote the long-term healthy development of the capital market. It is formed through voluntary application of listed companies, public opinion solicitation, and comments by consultancies, primary selection, and examination by the expert consultative committee.
2. As discussed above, only Chinese version reports are examined in this study. Therefore, Chinese was used when performing text search.
3. In China, companies in the finance and insurance industry help the government to direct capital away from the polluted companies, and, therefore, are viewed as environmentally sensitive.
4. A-shares are shares in mainland China-based companies that trade on Chinese stock exchanges such as the SSE and the Shenzhen Stock Exchange. A-shares are generally only available for purchase by Mainland China citizens.
5. Nonlinear probabilities can be modeled using either the logit or probit model. Although the logit is more common than the probit, this is generally historic—logit models are easier to

compute, but this is no longer an important consideration. The core difference is that the logit's errors are assumed to follow the standard logistic (zero mean and variance $\pi/3$), whereas the probit follows the standard normal distribution. Note that, in practical terms, logit and probit models come to the same conclusions, but the probit is easier to interpret.

6. There is the possibility of interaction between the government grants received by the companies and state ownership, as a state-owned enterprise (SOE) is more likely to gain government grants, and SOEs are more likely to be aware of, and meet, the required criteria. In addition, there is potential interaction between a company being dual-listed and whether the company is registered on the Global Reporting Initiative (GRI), as stock exchanges from more developed economies may favor the GRI approach to environmental CER. Thus, two interaction terms are also included.

7. Full model statistics are available on request.

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Tables and Figures

Table 1: Distribution of Observations by Year

Year	(n)
2007	143
2008	150
2009	165
2010	177
2011	180
Total	815

Table 2: Analysis of Ten Sample Companies 2011-2014

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Total_Extent	Equal variances assumed	.134	.716	.142	38	.89	63.9667	451.6038	-850.26	978.19
	Equal variances not assumed			.125	12.90	.90	63.9667	510.7578	1040.29	1168.23

Table 3: Summary of the Selection Models (N=760)

<i>Explanatory variables:</i>		Total_Select	AR_Select	CSR_Select
Share-holding influence	staownedC	1.056**	0.842***	2.803
	staownedL	0.659*	0.948***	-1.106
	stashareD	-0.057	-0.211	-0.826*
Incentivizing influence	envgraD	0.490**	0.546***	0.49
	totgraD	0.468*	0.045	-0.495
<i>Control variables:</i>				
highprofile		1.209***	1.448***	-0.193
loglagtotass		0.752***	0.061	1.607*
lagroa		0.793	0.401	0.63
loglagtotamm		-0.349	0.13	2.225*
lagroamm		-0.017	0.525	-0.49
<i>year</i>				
2008		1.615***	0.297	24.515*
2009		1.285***	0.17	24.938*
2010		1.131***	0.366	24.413*
2011		0.887***	-0.002	25.248*
csrD			-0.046	
arD				-0.722
Constant		-5.464***	-3.803***	-57.468**

Note:

1. Coefficients marked as: * p<.2; ** p<.1; *** p<.005,
2. Variables were tested for normality. Diagnostic tests were conducted on all models, and R² were within appropriate ranges, and the prob>chi2=0, indicating that all models are robust.

Table 4: Summary of Results of Extent of Reporting Models

		Total Extent (N = 602)	AR_Extent (N = 453)	CSR_Extent (N = 421)
<i>Explanatory variables:</i>				
Regulating influence	SSE	1.368***	1.099	1.056
	CASS	1.143	0.862	1.174*
	GOV	1.511***	0.838	1.064
Shareholding influence	staownedC	0.737	0.699	0.887
	staownedL	0.795	0.723	1.059
	stashareD	1.240**	1.16	1.116
Incentivizing influence	envgraD	1.343***	1.278***	1.147*
	totgraD	0.852	0.758	1.03
Interaction	grantsstaown	1.259	1.531	0.971
<i>Control variables:</i>				
International Influence	oveshareD	1.982***	1.576**	1.234
	GRI	3.100***	1.557**	2.260***
	griosshare	0.429***	0.543**	0.754
highprofile		1.173	1.336*	1.202*
loglagtotass		1.403**	1.277*	0.953
lagroa		1.298	1.09	1.254
loglagtotamm		0.833	0.843	1.239
lagroamm		0.787	0.945	0.966
<i>year</i>				
2008		1.878***	0.823	0.616*
2009		2.100***	0.789	0.763
2010		2.112***	0.935	0.772
2011		1.998***	0.796	0.804
csrD			0.854	
arD				1.208***
<i>Constant</i>		40.089***	103.152***	135.346***

Note:

1. Coefficients marked as: * p<.1; ** p<.05; *** p<.01,
2. Variables were tested for normality. Diagnostic tests were conducted on all models, and R² were within appropriate ranges, and the prob>chi2=0, indicating that all models are robust.

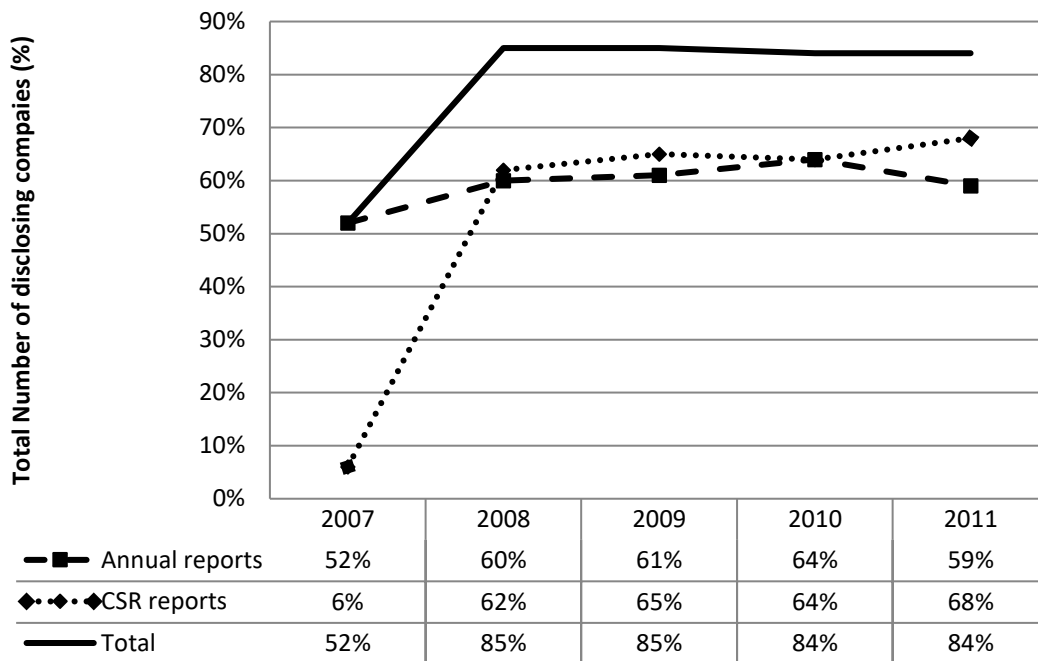
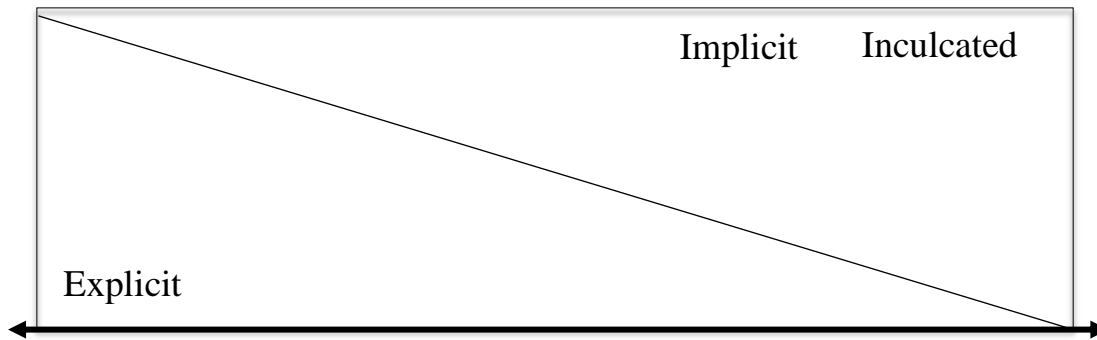


Figure 1: Percentage of Disclosing Companies



Liberal market economies	Coordinated market economies	Controlled market economies
<ul style="list-style-type: none"> • Individualism • Discretionary agency • Incentivizing responsive actors • Liberalism • Network governance • Policies providing discretion • Isolated actors 	<p>National Institutions Encouraging:</p> <ul style="list-style-type: none"> • Collectivism • Systemic/obligatory agency • Incentivizing program-driven agency • Solidarity • Partnership governance • Policies providing obligations • Interlocking/associated actors 	<ul style="list-style-type: none"> • Controlled collectivism • Obligatory/ Coercive agency • Regulating/Shareholding/Incentivizing driven agency • Authoritarian capitalism • Controlling governance • Policies providing control and obligations • Controlled/associated actors

Figure 2: Institutional CSR in Market Economies
(adapted from Matten and Moon, 2008, p.411)