MULTIFACETED STATE INFLUENCE ON
CORPORATE ENVIRONMENTALISM IN CHINA

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January 9, 2015
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ABSTRACT

In this paper, we focus on the multiple mechanisms through which the government exerts influence on the environmental performances of listed firms in China. Theoretically, we explore how multifaceted demands of a state affects corporate environmental practices in dissimilar ways. We unpack two types of influences from the state, including conflicting demands from multiple hierarchical levels of government and the diverse instruments with similar goals used across various areas of jurisdictions of the state. Our hypotheses are tested on a panel dataset of Chinese listed firms in the industries that are most relevant to the natural environment in the period 2008-2012. We find that the hierarchical administrative level of state body controlling a firm and the implementation of environmental practices are related in an inverted U-shape way, leading to an in-depth dimension of the state influence. Furthermore, multiple government instruments (namely, the stringency of regulations, the fiscal subsidies, and the public disclosure of malpractices) affect corporate environmentalism with different degrees of effectiveness, constituting an in-breadth dimension of state influence.
INTRODUCTION

The influence of a variety of stakeholders (including government, civil society, and business) on corporate environmental practices has been addressed in numerous academic studies over the past three decades. A large body of literature has shed light on how institutional pressures serve as the engines for the firms to adopt environmental strategies. Firms perform their operations in an environmentally friendly way to comply with government regulations (Delmas & Toffel, 2004), to outcompete their rivals in the market (Bremmers et al., 2007), and to respond to demands by their local communities and customers (Henriques & Sadorsky, 1996). Nevertheless, the influence of each of these actors has been assumed to be monolithic, with one clear and consistent set of prescriptions or proscriptions for firms. Little theoretical attention has been paid to understanding how one constituent exerts multiple and diverse major influences on firms’ environmental strategy. Furthermore, the bulk of extant studies have been performed in the context of Western societies, although the environmental impact of firms in emerging countries such as China has sharply grown.

In this paper, we examine the multifaceted impact of the Chinese state on corporate environmentalism on two dimensions. First, we explore corporate environmental performances in response to the various regional developing strategies from multiple, hierarchically different levels of controlling governments. Second, we examine how the consistency of targets across all levels of governance have dissimilar degrees of effectiveness on corporate environmentalism in different areas of jurisdictions through multiple instruments used by the state. These instruments include the stringency of regulations, the fiscal subsidies for environmental performances, and the public disclosure of the environmental malpractices. As such, we unpack the multiple influences from a seemingly monolithic yet internally complex constituent, the state, on corporate environmentalism.
The motivation is to answer our leading research question: How do different forms and levels of government intervention influence corporate environmentalism in China?

We investigate in the context of China to explore the multifaceted impact of the state on the corporate environmentalism of Chinese listed firms. After decades of sustained high economic growth rates, China has witnessed not only an impressive wealth increase but also important environmental challenges. The drain of natural resources has undermined the potential of future economic growth and China’s international reputation, while the pollution of air, water, and soil has jeopardized the well-being of citizens. On the one hand, because of the lingering legacy of the command-and-control economy (Li et al., 2008), the Chinese central state has duly recognized major environmental problems and served as the major driver to push environmental sustainable development (Child, Lu, & Tsai, 2007). Environmental protection targets are expected to be implemented through multiple instruments in various areas of jurisdiction, from top to bottom. On the other hand, there are more than five hierarchical administrative layers of state participation in China (Xu, Tihanyi, & Hitt, 2014), each of which controls some major resources for the development of local firms. Since economic growth has long been tied to political promotion, hierarchically differentiated governments do not always prioritize sustainable development (Qi et al., 2008). As one Chinese proverb states, the emperor is as far away as the sky (tian gao huang di yuan in Chinese). Local governments may have different development agendas for local firms. Thus, the context in China offers a fertile ground to examine how a single constituent exerts multiple influences on corporate environmental practices. We thus study corporate environmentalism or “the recognition and integration of environmental concerns into a firm’s decision-making process” (Banerjee, 2002: 177) in the context of Chinese firms.
Using content analysis and panel data analysis on a dataset of Chinese listed firms over the period 2008-2012, our study explores the corporate environmental practices in response to the pressures from a multifaceted state. We find that the hierarchical distance to the central government from a firm’s controlling government influences corporate environmentalism in an inverted U-shape way. Out of the three areas of jurisdictions, we find stringent regulation and financial subsidies to be relatively more effective than public disclosure. These influences, which we label “state influence in depth” and “state influence in breadth”, validate our expectation that the institutional demands from one constituent can be complex for firms to respond to.

This study contributes to the literature on corporate environmentalism by addressing the multifaceted attribute of a constituent, a state, and its impact on corporate environmental strategies. Previous studies have focused more on the multiple external and internal pressures brought by different actors, e.g., the government, industry, the market, civil society, and organizational structure (Delmas & Toffel, 2011), while how one body of factor has major but diverse influences on the firms has been overlooked. Moreover, due to the limited number of studies on corporate environmentalism in emerging markets, and the abundance of studies from post-materialist settings, the current literature shows a one-sided take on the trade-off between economic development and environmental preservation. In addition, our current insights on corporate environmentalism are conditioned by studies conducted in contexts in which civil society, not the government, is a major driver of environmental responsiveness (e.g., Egri & Herman, 2000; Hoffman, 1999). In our theorizing, we identify major forces for implementing corporate environmentalism from the state in two dimensions, including internal hierarchical struggles and consistency, in the context of a dominant state-led emerging economy, China.
We also advance insights into corporate political activity when struggles among different levels of government are present. Activities attempting to shape the government policy to be beneficial to firms (such as lobbying, donation, or maintaining political connections) have been addressed (Hillman, Keim, & Schuler, 2004). However, the structural position of firms vis-à-vis different levels and jurisdictional areas of government has been overlooked, despite its importance. By studying the multiple influences of the state on corporate environmentalism in the Chinese firms, we unpack which facets of the state are more important to be addressed strategically.

A final contribution is that we add to the institutional literature by showing that complexity is not confined to the concurrence of multiple logics but can also manifest itself through multiplicity within one single logic. Institutional theorists have thoroughly studied the inter-logic complexity where competing logics are at play in one field (Greenwood et al., 2010; Thornton & Ocasio, 1999; Rao et al., 2003), while there is little research on the intra-logic complexity where there are conflicts or (in)compatibility within a logic itself (Meyer and Höllerer, 2014). Through the lens of institutional theory, the state logic in China has both in-depth and in-breadth complexity. Thus we also show how the complexity within logic could be so impactful that firms need to respond strategically according to their structural position to the multifaceted manifestations of a state logic in China.

The structure of the remainder of the paper is as follows. We first describe the environmental governance system in the context of China. We then develop arguments around the multifaceted influences of the state. After the description of our sample and empirical method, we present the empirical outcomes. Finally, we discuss the implications of our findings.
ENVIRONMENTAL GOVERNANCE IN CHINA

Having achieved dramatic economic success, China has become the largest producer of carbon dioxide (CO₂) emissions since 2005 and the largest energy consumer since 2008 (World Development Index from the World Bank). The similar patterns in the growth rates of CO₂ emission, energy consumption, and GDP shown in Figure 1 suggest that the economic development in China is inseparable from its dependence on (heavy) industry at the expense of the natural environment.

The Chinese central government has become increasingly aware of the environmental issues. The State Environmental Protection Administration (SEPA) was promoted to the highest administrative level of governance, the ministerial level, while many other organs were dismissed in the Institutional Restructuring of the State Council in 1998. SEPA was officially renamed as Ministry of Environment Protection (MEP) in 2008. In 2007, clear obligatory environmental targets were set in the 11th Five-Year Plan and were further enhanced in the 12th Five-Year Plan in 2011. The implementation of the targets has since been directly taken into account when assessing the performance and considering the promotion of local government officials. As shown in Figure 2, 10 percent in the annual central government report in 2012 was about environment protection, compared with about 1 percent in 1985.

In such a developing, transitional, and top-down structured country as China, the state has been the most powerful institution in allocating major resources for the development of an industry.
or a region (Li et al., 2008). However, both the various levels of local governments and the central government have been controlling the access to business resources (Marquis & Qian, 2013). Consequently, there is, on the one hand, various extent of policy implementation in different hierarchical levels of local governments out of different interests and strategies for development. On the other hand, consistency in important targets and goals facilitated by similar instruments and structures top-down is designed to avoid inefficient enforcement of regulations in local areas.

To begin with, different extent of conflicting priorities of economic and sustainable development among the different hierarchical levels of Chinese state has been shaped as the nation heads forward. After the establishment of the People’s Republic of China in 1949, priority was given to the development of heavy industry for economic reconstruction. The Open Door Policy in 1978, with the decentralization of revenue retention and investment allocation from the provincial government down to the individual enterprises, helped further establish an economic incentive system (Oi, 1995). The GDP-based evaluation of the local governments since 1985 again turned the increasing number of laws and regulations on environmental protection into a dead letter. The local governments, as a consequence, had “strong incentives to circumvent those policies adopted in Beijing that might constrain local growth” (Lieberthal, 1995). Firms in heavy industry yet profitable have often enjoyed protection from local governments (Marquis, Zhang, & Zhou, 2011). As the central government began to accumulate reputation and fought to have more say in international affairs for the nation, increasing divergence in the planning for regional development occurred between the central and local governments. As the Chinese idiom goes, “Local policies trump central government policies” (*shang you zheng ce, xia you dui ce*). Consequently, the strategies of different hierarchical layers, from central to local governments, do not always concur. The regulation of environmental issues has been pushed by the central government in China, but
rarely so by the local government (Child et al., 2007). The internal struggles among Chinese central and local governments when implementing environmental policies are summarized in Table 1.

| Insert Table 1 about here |

While the strategies of central and local government diverge due to the different interest groups each level has to satisfy, there is also consistency within the political system. The state reaches multiple areas of jurisdictions through different instruments in order to facilitate the implementation of its targets. Such enforcement is guaranteed by the local branches of the functional ministries on the central level across almost all hierarchical levels of governance. The local Environment Protection Bureaus (EPBs), branches of the MEP, adopt regulation instrument to supervise the environmental performances of the local firms and make sure the environmental laws and policies are not violated.

The local Development and Reform Bureaus, and Bureaus of Economy and Informatization, branches of the National Development and Reform Commission, and Ministry of Industry and Information Technology on the central level, respectively, utilize economic instruments such as fiscal subsidies on clean production, energy saving, and emission reduction to stimulate and encourage local firms to perform environmentally friendly. In 2012, 199.8 billion RMB (approximately 32 billion USD) were allocated as subsidies for energy saving and environmental protection purposes from the central level, 96.8% of which were transferred to the local levels (National Bureau of Statistics of China).

Public instruments such as environmental performance disclosure are also utilized by the EPBs to exert a public reputational impact. Unlike in the western countries where NGOs organize protests in the community as a way of supervising the government and the firms, social
organizations serve as a helping hand of the government in China (Yang, 2005). Therefore, the public instruments are effective only if they are supported by the Chinese government.

In sum, the Chinese state reaches to different areas of jurisdiction to increase the possibility that it can fulfill its targets. As the state targets are facilitated through regulation, economic, and public instruments on every level of governance, firms can be directly influenced and response to any effective one(s). Table 2 presents the characteristics of the consistent state instruments in a horizontal dimension from top to bottom.

In conclusion, although similar with the western countries where there are branches of the federal government in the local area, the demands from each level of local government in China is not as monolithic. There are vertical structural struggles within the Chinese state. Meanwhile, there are also instruments that are consistent from top to bottom of the state. Such vertical struggles and consistency are presented in Figure 3.

**INFLUENCES OF THE STATE ON CORPORATE ENVIRONMENTALISM**

Firms adopt environmental strategies in order to get legitimized under institutional pressures from the government, the community, the market, and out of their organizational characteristics (Delmas & Toffel, 2010). Cited as the greatest source of pressure (Henriques & Sadorsky, 1996), the influence of government has been revealed as mainly through the enforcement of regulations (Russo, 1992; Delmas & Montes-Sancho, 2011) and signaling process (Marquis & Qian, 2013). As firms seek for reducing uncertainty and advancing their private ends (Hillman,
Keim, and Schuler, 2004), they tend to build good connections with the government and comply with the expectations and requirements set by the government.

In developed economies, firms engage in political activities such as lobbying and donations as their political strategies (Hillman & Hitt, 1999). While in emerging economies, firms need to respond more scrupulously as the demands and instructions from the government are not always clear-cut and do not always concur (Marquis et al., 2011). Admittedly, the policies and the regulations do exist as criteria to supervise the performances of the firms. However, what has been glossed over in the literature is that governments in emerging countries are internally complex, and multiple resource-controlling functional levels and departments of a state may have different interpretations and expectations for development, exerting various impacts on local firms.

The vertical struggles as well as the consistency within the Chinese state offer a precious opportunity to investigate the environmental strategy as a type of political activity in response to the multiple demands from the body of the state. It differs from, and is more complicated than the state influence in western countries. Firstly, it shows internal struggles across the vertical dimension (i.e., different hierarchical layers). We label the influence in this vertical dimension the ‘state influence in depth’. Secondly, it reaches to several spheres of jurisdictions to exert its influences. The influence on the horizontal dimension (i.e., multiple consistent instruments adopted by the state among the hierarchical levels) is labeled the ‘state influence in breadth’.

From Section 2 where the Chinese context is described, we see that although the state in China demands that local firms are regulated, the different interests that local and central governments deal with lead to divergent orientations of future development for the region and the nation, respectively. Governed by the state, to conform to local or central government’s regulations and orientations, to which level of local governance, and to what extent the local and central
governments shall be satisfied respectively, are all tough decisions for the firms. In addition, although the local governments may have different strategies for regional development from their superior governments, there is consistency in local areas. The structure of the local government resembles the central and the similar instruments have been utilized through all the levels, facilitating the central state’s targets in local areas. This eventually makes the firms confronted with a set of differentiated demands from the state. Here, we unpack how Chinese listed firms respond to such complex demands on environmental performances as their political strategies.

**Hierarchy-driven influence on a vertical dimension: State influence in depth**

As noted above, there are more than five layers of state participation in China (Xu, Tihanyi, & Hitt, 2014), each of which influences the behaviors of firms. When firms in China are restricted to various regional developing strategies from the local governments, they are to some extent forced to meet the multiple institutional demands stemming from different levels of the state, as both the local and the central governments control important sources for the development of the industries and have their respective leverage to guarantee the compliance from the firms (Marquis & Qian, 2013). This exemplifies the vertically hierarchy-driven complex demands from the multiple levels of government on the local firms, or the state influence in depth.

Such influence manifested by the hierarchical governance of the state can be addressed in two aspects. On the one hand, there is mounting pressure on environmental issues as firms become governed by multiple levels of government from top to down in the local area simultaneously. To begin with, local governments serve as delegates (Qi et al., 2008), or agents (Wong, 2000), of their superior government in China. The central government delegates power and responsibilities to the provincial government to a degree that enables the latter to implement centrally formulated targets and plans. The provincial government, in turn, delegates certain power to the municipal
government, and further down. Meanwhile, the superior government keeps its power to regulate a larger area consisted of the area covered by the subordinate governments. As firms are subjected to the control of more levels of government, they are confronted with mounting pressure to implement corporate environmentalism. Moreover, the firms owned by the higher levels of the state, or the game ruler, have weaker constraints for corporate control China (Gedajlovic & Shapiro, 1998), as managers are appointed with political concerns instead of solely their performances in the firms. The higher level of government a firm is directly owned, the less constraint they have, as they have more opportunities to seek for leniency when less levels of government have a say. Therefore, we expect a positive impact of the hierarchical distance from the controlling level of government of a firm to the central level on the corporate environmentalism firstly.

On the other hand, governmental bodies acquire more autonomy and power as the administrative distance between them and the central level increases (Qi et al., 2008). This enhanced local autonomy in conjunction with the, historically evolved, market-based evaluation of local government widens the cleavage between the targets of local and central governments. Local governments are exposed to more rent-seeking possibilities when they can reap more tax from the traditional industries with more discretion to establish policy priorities (Morduch & Sicular, 2000). Such increasing discretion in the local area with more financial concerns hinders the ambition of the local government to emphasize the importance of corporate environmentalism in the local area. This might eventually taper off the influence of mounting pressure from the multiple levels of governance. Firms that experience less pressure due to the lower control by a politically remote government will make less effort to implement environmental practices.
Consequently, there is vertical complexity in the state power that can exert influences on corporate environmentalism in Chinese firms. The mounting pressure from multiple levels of government on environmental protective performances is eventually offset as the administrative distance between the controlling local government and the central level is so far away that local government policies may be decoupled from central policies.

Therefore, we hypothesize that there is an inverted U-shape impact from multiple state levels on the corporate environmentalism in Chinese firms. The central state’s influence will be strong as provincial bodies implement the environmental policies that have been delegated to them, but lose power as the administrative distance increases and local governments have more discretion to implement other, potentially conflicting policies.

H1. There is an inverted U-shape effect on the corporate environmentalism from the hierarchical distance between the firm’s controlling government and the central government.

Instrument-driven influence on a horizontal dimension: State influence in breadth

On the environmental issues in China, a same set of areas of jurisdiction for the facilitation of environmental targets are present at every level of governance. Similar instruments to enforce the implementation of such targets are utilized to supervise and encourage the firms across different hierarchical levels. In other words, despite the fact that multiple levels of the government may have different interpretations of and expectations on the firms, there is consistency among the multiple governments when a similar enforcing system is shared. This shapes the breadth that the state power can reach to keep the local governments and firms regulated as planned by the central state. As elaborated in Section 2, a state influence in breadth can be explored with the instruments through each level of the government in the political system on environmental issues, namely, regulation instrument, economic instrument, and public instrument.
Environmental regulations were initially designed as uniform to all sectors in a command-and-control form, and later adjusted to be sector-specific ones (Fiorino, 1996). Banerjee, Iyer and Kashyap (2003) found that the sector that the organizations belong to is a moderator of the factors exerting influences on the environmental orientation and environmental strategy. Firms harmful to the natural environment are often under more stringent regulations than those in the cleaner sectors (Jaffe & Palmer, 1997). However, it is more natural that firms are comparatively less relevant to the environment, such as those in the financial sectors, have a weaker initiative to have environmental protective orientations. Meanwhile, the performance of an equally important type of industry to the natural environment has been largely neglected. As the awareness of the seriousness of environmental issues has been rising universally, industries such as renewable energy (i.e., solar panel and wind turbine construction) and garbage disposal industries, which seem to have a high, positive environmental impact have been emerging and getting more opportunities to grow.

The Chinese government in 2010 has designated three (out of seven) environmentally relevant emerging sectors as the ones that should be developed as a national prioritized strategy: Energy saving and environmental protection; New energy; and New-energy vehicles. They enjoy facilities such as prioritized financial policies, research and development, and better standards and measurement. As a result, the traditional industries are confronted with dramatic pressure brought by the stringent regulations initiated by the central government, while the emerging sectors are enjoying more supportive policies for development. Such difference in the stringency of regulations will lower the legitimacy of traditional, always considered as polluting, firms while promoting that of the emerging sectors in the field. Such difference in the manifestation of the stringency of regulations as an instrument to facilitate the expectation from the state, we
hypothesize, would eventually lead to a paradoxical consequence. The firms in the traditional polluting sectors will make more effort to meet environmental regulations strategically than the presumed clean firms (Pache & Santos, 2013) under the state regulation.

\[ \text{H2a. Firms in traditional sectors being heavily regulated implement more corporate environmentalism than those in clean sectors.} \]

Although the most frequently used instrument to facilitate corporate social responsibilities is stringent regulation (Portz, 19991), the effectiveness of regulations is sometimes in question (Campbell, 2007). Similarly, in China, it has been demonstrated that pollution fees as a punishment for environmental malpractice are ineffective to regulate firms. The enforcement of payment has either suffered from resistance with regional protectionism and resulted in a waiver, or been of too small an amount compared to the profit obtained through environmental malpractice (Jahiel, 1997).

Furthermore, as a legacy from the market-oriented development in the local areas, firms strive to generate profits and reduce costs. Corporate environmentalism has not yet been considered as an unavoidable duty for a firm when sustainable development has not been diffused completely at the grassroots level. Environmental actions are undermined by the prospects of financial pay-off. Firms become less environment-friendly out of concerns on their financial performance, since such performances may even receive negative responses from the investors in China (Lyon, Lu, Shi & Lin, 2012). Moreover, firms with relatively weak financial performance do not have sufficient resources to take their social responsibilities (Waddock & Graves, 1997).

A proper way to handle such concerns is to offer subsidies on environmental protection activities for firms. The Chinese state has started to allocate increasing amounts and a variety of fiscal subsidies to encourage corporate environmentalism as an economic instrument. Although there has been a lack of supervision on the use of such subsidies after firms receive it (Southern
Weekly, 2014), the existence of such subsidies has still manifested the supportive emphasis on corporate environmentalism to facilitate the demand from the state on environmental issues, which may lead to better performances in the firms:

\[ H2b. \text{ Firms receiving more fiscal subsidies from the government implement more corporate environmentalism.} \]

Strategic responses to institutional pressures constitute signals to external observers, who form impressions of firms on issues such as a firm’s reputation (Basdeo, Smith, Grimm et al., 2006). When a strong reputation is established, firms tend not to take the risk to jeopardize their positive image and business by performing poorly in areas to which their customers and suppliers pay special attention (Macaulay, 1963). The malpractices may even lead to actions by social movements in their community, which may influence decisions made by shareholders and other stakeholders.

As reputation is critical for many firms, the disclosure of environmental malpractices can be a fairly effective instrument for the government to induce firms into compliance (Grant, 1997). In China, instead of being the only regulating machine, the government gradually encourages the development of a multi-actor system, including involving the participation and supervision of the local communities (Shi & Zhang, 2006). More importantly, firms that neglect publicly disclosed government warnings or face government sanctions after the discovery of malpractices risk serious consequences, including the suspension of business activities or even the delisting from stock exchanges. Therefore, as a strategic response to the state influence in the way of public disclosure, firms will engage in more environmentally friendly practices.

\[ H2c. \text{ Firms whose repetitive environmental malpractices have been publicly disclosed by the state will implement more corporate environmentalism.} \]
METHODOLOGY

Sample and Data

We choose China for the study based on the following reasons. First, with the largest population in the world, developing dependently on heavy industry, China needs to deal with the most severe environmental problems while maintaining its steady economic development harmoniously. Unlike the western countries who dealt with environmental issues after their industrialization process, under the backdrop of globalization, China is confronted with increasing institutional pressures from domestic and abroad on environmental issues. Second, with different economic, political, and cultural institutions, the state power in China spread and influence business in unique ways as explored in the above sections. Third, China represents a major emerging market where most of the sectors are undergoing structural transformations, which has a major impact on the industrial dynamics and organizational behaviors (Luo, 2003; Thornton et al., 2012).

In order to investigate the impact of the multifaceted state in China, we use a longitudinal dataset from 2008 to 2012. The starting point of 2008 is chosen due to the following reasons. To begin with, the central government started restructuring both the industrial structure and the political system. Special attention has been paid to environmental protection, after critical events with salient international influences happened in 2008, including the Sichuan Earthquake, Sanlu Milk Scandal, and the financial crisis. Restructuring and revitalization in key sectors such as iron and steel, automobile, petrochemicals, textiles, nonferrous metals, and equipment manufacturing have been carefully planned (China's Central Economic Work Conference, 2008). Meanwhile, the development of the Strategic Emerging Industries, as mentioned in the above section, was proposed and elevated as a national strategy since 2008. The importance and urgency was made clear that the government "will foster emerging industries of strategic importance" (Report on the Work of
The Ministry of Environmental Protection (MEP) took the place of the former State Environmental Protection Administration (SEPA) in 2008. This promotion entitled the MEP with more power in drafting laws and regulations and making top decisions for the country, indicating the determination and emphasis of the Chinese central government.

Moreover, in accordance with the plan of the restructuring from the state, supervised by the central state organ, the China Securities Regulatory Commission (CSRC), the Shenzhen Stock Exchange (SZSE) and Shanghai Stock Exchange (SSE) issued notices and guidelines on corporate social responsibility and environmental information disclosure for listed firms in the years 2006 and 2008 separately. Therefore, the disclosure on environmental performances is expected to be in more details and more professional after 2008.

We choose the sample from the 1425 firms of the Main Board of both SSE and SZSE for the reasons that follow. To begin with, the listed firms are relatively larger than the non-listed ones, and therefore are more influential in the market and society considering both their economic contribution and impact on the environment. Moreover, being exposed to the public, the listed firms have to respond to the institutional pressures if they expect to improve their reputation or status, and raise equity capital. In addition, as it is not compulsory even for the listed firms to disclose their environmental performance, the data from the non-listed firms are not always available and reliable. Finally, as there is only a Main Board for listed firms in SSE, compared to two more boards, namely, Growth Enterprises Market (GEM), and Small and Medium Enterprise Board (SME) in SZSE, we choose the sample from the Main Board in the two stock exchanges. Considering the fact that firms suffering from serious financial or other problems are always in unstable environment in terms of ownership and strategic decisions, 51 firms given Special Treatment during the period were excluded.
To concentrate on the sectors that are most relevant to the natural environment, we identified two groups of firms. They are namely, the firms that are in the Energy Saving and Environment Protection sector (ESEP) who produce environmental protective and/or energy saving products, and the firms in the traditional industries (TRI) that are always listed as major polluters to the environment. We used the CNI TEDA Environmental Protection Index issued in 2008 to identify the sectors in the former group. The ESEP group includes sectors of sewage disposal, emission reduction equipment, energy saving equipment and material, recycling, alternative power (wind, hydro, and biomass). As there has not been an official categorization from the CSRC or any other group, we carefully studied the description of the major business of the firms in 2012 using the dataset of Gildata (a data source used by the financial analysts to analyze stocks in China) to select firms for the ESEP group. We identified the industries in the TRI group according to the list in the Directory of Industrial Classifications for Listed Firms Subject to Environmental Protection Inspections issued by the MEP in 2008. The TRI group is consisted of firms in the sectors of thermal power, iron and steel, cement, electrolyzed aluminum, coal, metallurgy, construction materials, mining, chemicals, petrifaction, pharmaceuticals, light industry, textiles and leather goods. The population of the firms in the TRI group was identified according to the industry the firms belong to, according to the categorization by the China Securities Regulatory Commission. The above identification resulted in 36 firms under ESEP, and 388 under TRI in the Main Boards of the two stock exchanges. We did an interval sampling according to the relative sequence in the total operating revenue in year 2012 to select 36 firms in the TRI group. The distributions of the sample in terms of regions and ownership are similar to the whole population, indicating a proper representativeness.
We conducted a content analysis to derive the firms’ environmental performances from their annual reports, corporate social responsibility reports (CSR report, also called sustainability reports, if available), environment responsibility reports (ER report, if available) from CNINFO and the firms’ official websites (if available). The annual reports are criticized to be of impression management rather than actual disclosure (Wiseman, 1982), and sometimes involves inconsistency (Ingram and Frazier, 1980). Despite of these, the combined multiple sources have a number of advantages to identify corporate environmentalism based on several considerations. For one thing, annual reports are widely acknowledged as the major channel through which the firms disclose important information to communicate with the shareholders and the public (Wiseman, 1982; Sharma & Henriques, 2005). For the other, the reports are unobtrusive compared to data obtained from surveys (Bansal, 2005), considering the authenticity of the statements can be easily supervised by the public. Moreover, we included the CSR and ER reports because more detailed information is disclosed in them when there is limited space in the annual reports.

Although some firms were never given Special Treatment during the period being observed, there were still major reorganizations of assets in some of the selected firms. We removed those firm-year observations when the reorganization caused a big change in the product the firms produce, such as making the firm switch its category from ESEP group to the TRI group. This procedure made the final sample size to be 153 firm-year observations in the ESEP group, and 166 in the TRI group.

Variables and Measures

**Dependent Variable – Corporate environmentalism.** Corporate environmentalism refers to what is actually done by the firms in the form of giving detailed numbers or descriptions of the events. This is consisted of detailed report of the activities, contribution or effort made on energy
saving and environmental protection, and variety of practical activities to propagate the environmental protection concepts. Firms may claim their corporate environmentalism while not take it seriously (Roberts, 2003). To avoid the green-washing intention, we only consider it representative of corporate environmentalism if a firm discloses its substantive implementation on environment protection. The variable is coded through several steps using content analysis with the software NVivo 10. First, we did an open coding by reading through 10 random selected annual reports from the firms in each of the two groups, and noted the aspects that the firms focus on about environmental issues. Second, we gave labels to the aspects found in the first step respectively. Additional labels were added during the process of coding, as new aspects were found in other firms. Third, we added up the word count and got the total number under this variable. In case that some firms are wordier than the others, we calculated the percentage of the words out of the total amount from the annual reports, Corporate Social Responsibility reports, and Environmental Responsibility reports, and multiplied 100 with the final percentage. Table 3 presents the list of the final codes used to represent the substantive implementation of the corporate environmentalism. The variable is transferred into a log form.

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Insert Table 3 about here
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Independent Variables

Distance to the central government. To test Hypothesis 1, the hierarchical distance from the firm to the central government is calculated. This distance is calculated differently for the State-owned Enterprises (SOEs) and the non-SOE. The reason for the different calculation is that the SOEs in China have a political status comparable to what the government organs have. A firm located in a town might be governed directly by the State Council, making it difficult for the local
government to exert power on its performances. Thus, a lower level of government has a less say to a firm with a higher status. Therefore, the hierarchical distance to the central government for the SOEs is calculated as the hierarchical distance from the controlling government organ to the central government. The non-SOEs’ distance to the central government is the hierarchical distance from the nearest level of government organ to the central government. The scale is described in more details in Table 4. A larger value of the distance implies a larger hierarchical distance to the central government. We used the squared term of this variable to observe the curvilinear effect. The variable is derived from “the figure of the relationship between the firm and its actual controller” in the annual reports and the hierarchical government structure in China.

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**TRI.** To test Hypothesis 2a, we use a dummy variable TRI to indicate the firm type; the value is 1 for the firms in the TRI group, and 0 for the firms in the ESEP group. As the TRI firms are selected according to the Directory of Industrial Classifications for Listed Firms Subject to Environmental Protection Inspections issued by the MEP in 2008, they represent the firms that are confronted with more stringent regulations on environmental performances in China.

**Government subsidies.** To test Hypothesis 2b, the effect of the economic instrument utilized by the state reach in breadth consistently, we calculated the ratio of government subsidies on environmental protection to the revenue of the year for a firm, and multiplied 100 with the final percentage. The variable is obtained through the financial report of the firms.

**Malpractice.** To test Hypothesis 2c, the effectiveness of the public instrument by the state, we counted the number of times that malpractices of a firm were disclosed by the local EPBs. As this information is made public, we collected data for this variable from the website of the Institute of
Public & Environmental Affairs (IPE), an independent Environmental NGO that transfers the local environmental penalty reports from the governments onto its own website to promote environmental information disclosure.

**Control Variables**

*Political connections.* Maintaining good connection with the government helps the Chinese firms overcome potential legal and institutional failure (Li, et al., 2008). For the Chinese firms, it means less emphasis on proactive environmental protection performances can be addressed as long as the bottom line of obeying the regulations is intact. Two variables are used to control the effect of the political connections of a listed firm. First, the percentage of members in the top management team of a firm also working for a government organ or are members of the National People Congress (NPC) or the Chinese People’s Political Consultative Conference (CPPCC) consist the variable *TMT political connection.* Second, if the CEO/chair of the firm also works in a local government organ, or is a member of the NPC/CPPCC (Marquis & Qian, 2013), the dummy variable *CEO political connection* equals 1, and 0 otherwise. The two variables are collected from the profile of top management team in the annual reports of the listed firms.

*Local government fiscal power.* Strong fiscal power enables provincial governments with the buffer to tackle with uncertainty (Xu et al., 2014), or a prerequisite to ameliorate such superstructure as the natural environment. Total provincial government revenue obtained from the National Bureau of Statistics of the People's Republic of China is used to measure the fiscal power of the local government. The variable is transferred into a log form.

*Provincial GDP per capita.* The provincial economic development represents the level of regional development. If a region is with great prosperity, the community might be either fairly advanced to realize the importance of environmental protection, exerting pressure on the local
firms, or pay too much attention to the economic development if there is not much serious environmental issues. The data for this variable was derived from the China Statistical Yearbook annually, and transferred into a log form.

**Sales.** When a firm is financially restricted, it has less incentive to carry out environmental protective activities if its major business is not influenced (Margolis & Walsh, 2001). Moreover, the size of the firm influences the visibility and relationship to its environment (Deephouse, 1996). Therefore, we use the sales from the major business of a firm in each year to control the effect of firm size. The variable is collected from the CSMAR dataset, and transferred into a log form.

**Export percentage.** As the firms in China are exposed to the international market after the Open Policy in 1978, and especially after China’s reentering the WTO, regulations and standards in the international market have started to exert influences on the corporate performance. We used the percentage of the revenue a firm gets from export business out of the total sales from its major business to measure how much it can be affected by the international market. The variable is collected from the CSMAR dataset, multiplied with 100, and transferred into a log form.

**Years in the field.** The longer a firm has been staying in the field, as firms are learning the institutional pressures in their environment, the more aware it will be of the environmental issues and institutional pressures on its environmental performance. We used the years that a firm has been operating in the current field to control this effect. This variable was manually checked with the firms’ annual reports and official websites (if available).

**Free float percentage.** How much a firm is dependent on the market or the capital it can freely use influences the making of important decisions. We use the free float percentage to measure the influence from the capital matters. Two types of shares are excluded as free float: shares that are Trading Limited despite of the amount of share, eg., limited shares from the Share-
trading Reform, and stocks in the limited trading condition after newly issued; shares held by governments, strategic investors, shares-on-hold, shares hold by the founders, family, or top management team, trading limited employee stock ownership, and cross-shareholding. The shares are regarded as free floated if any one of the latter 6 types holds less than 5% shares together with their Concerted Parties (CSINDEX, 2010). The variable is collected from the financial reports of the firms, multiplied with 100, and transferred into a log form.

Environment quality. The quality of the regional natural environment may also exert influence on the corporate environmentalism, both directly and indirectly, as people in the firms can directly feel it and get motivated. We use the amount of Particulate Matter 10 in the capital city of the province a firm resides in to measure the quality of the regional environment. The data was derived from the China Statistical Yearbook annually, and transferred into a log form.

CSR report. Firms are not forced to report their environmental performances and values on environmental issues. As a result, firms that voluntarily disclose relevant information in separate reports such as Corporate Social Responsibility report (CSR report) and/or Environmental Responsibility Report (ER report) present more willingness to face with the uncertainty and focus on environmental issues. The firms having different types of reports normally disclose more information on environmental issues. We use a dummy variable to control this effect. The value is 1 if a firm has a CSR report and/or ER report, 0 not. If the CSR/ER report is not separated from the annual report but is a complete piece of report attached, it will also be considered as a CSR report. But if the CSR/ER work is only integrated in the annual report within several paragraphs, it will not be considered as a CSR report.
Regression Methods

We explored the multifaceted state influence with internal struggles in depth and consistency in breadth on the corporate environmentalism using panel data analysis. All of the variables are updated annually. In this study, we use random effect models based on the following reasons. To begin with, there are several variables which describe the intrinsic properties of the firms or the industries they belong to, such as the hierarchical distance to the central government, type of firms, and whether the firm has a CSR report. Using fixed effects model will eliminate time invariant effects like this, and therefore it will cause a huge loss in the efficacy of the model. Moreover, the result from Hausman test confirmed that random effect model is more proper than the fixed effect model (p=0.87), and the Breusch and Pagan Lagrangian multiplier test confirmed that random effect model better than the pooled regression (p=0.00). We used STATA 12.0 to estimate the random effect models in this study.

RESULTS

We sought to explore how the two-dimensional state power influences the corporate environmentalism in Chinese listed firms in this study. Table 5 presents descriptive statistics and pairwise correlations for all the variables across the 5 years among the 72 listed firms (319 observations in total) in our sample.

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<td>Insert Table 5 about here</td>
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</tbody>
</table>

Table 6 presents the regression results for the substantive implementation of the corporate environmentalism. We ran 7 regressions to test the influences on the firms from the state in depth and in breadth. Models 1, 2, 4, and 6 are independent regressions of the main effects, namely, the hierarchical distance to the central state, the stringency of the state regulations for sectors, the fiscal
subsidies on environmentally friendly practices, and the public disclosure of malpractices disclosed by the state, with the control variables. Models 3, 5, and 7 are the combined effects of the main effects. In the last column, model 7 shows the full model. Variance Inflation Factors (VIFs) are all at acceptable levels, with a mean VIF of 1.59 in the full model. Therefore, the possibility of multicollinearity is excluded.

The breadth that a state power can reach is effective in the regulatory and economic dimensions, but not when it comes to the public disclosure instrument. Models 2, 3, 5 and 7 indicate
that H2a is strongly supported (b= 0.12, p<0.05 in Model 7, for instance). Thus, stringent regulations exert more influence on listed firms in China on their environmental performances.

From models 4, 5 and 7, we find that H2b is strongly supported (b=0.12, p<0.01 in Model 7, for instance), which means that higher fiscal subsidies stimulate environmentally friendly corporate practices. From models 6 and 7, we observe that H2c is not supported, indicating that the public tool has no significant positive effect on corporate environmentalism of Chinese listed firms (b=-0.00064, p>0.10 in Model 7, for instance).

DISCUSSION AND CONCLUSION

We sought to answer the question of how different facets of one constituent—here, the state—influence corporate environmentalism in China. We argued that different demands and strategies from diverse state levels and different policy instruments exert dissimilar influences on environmentally relevant practices. We tested our ideas on a multi-year data set of publicly listed firms in China with a significant environmental impact. We found support for the predicted curvilinear relationship between hierarchical state level and corporate environmentalism as well as for the hypothesized positive impact of regulation and subsidy on environmental practices; disclosure of malpractices turned out to be insignificant.

These findings have several implications. First, we have provided insights into corporate environmentalism literature. Existing studies on corporate environmentalism have assumed monolithic expectations from every constituent that can exert influence on the firms. Our study provides an important contribution to this body of literature that demands from each constituent can be complex from multiple dimensions. We unpack how the corporate environmental performances are influenced when internally conflicting demands from different hierarchical levels
of governments are at play. We also reveal the effectiveness of the multiple consistent instruments used across all levels of government in various areas of jurisdictions.

Moreover, studies have well documented the influential factors for corporate environmentalism mostly in the context of North America and Western Europe (Bansal & Hoffman, 2012; Wijen, Zoeteman, Pieters, & Van Seters, 2012). Given the strongly risen impact of Chinese firms on the natural environment and the dominant role of the Chinese state on economic activities and building a harmonious society, our study offers rich insights into state influence on corporate environmentalism in a leading economy that has strongly impacted the natural environment.

Second, we contribute to the literature of corporate political activity by disentangling different levels and types of state influence on corporate environmentalism. The literature has largely explored how lobbying, donations, or maintaining political connections (Bai, Lu, & Tao, 2006; Fan, Wong, & Zhang, 2007; Li et al., 2008), as corporate political activities reduce uncertainty and help seek for opportunities (Hillman, Zardkoohi, & Bierman, 1999). In addition, the tension between local and central governments has been explored in the Chinese context (Oi, 1995). However, little attention has been paid to the influences on the corporate responses caused by such differences in the political administrative distance between local and central state levels. In other words, the organizational response brought by the political hierarchical position a firm resides in as a vital type of corporate political activity has been largely neglected. By categorizing the level of governments that control the local firms, and examining corporate environmental responsiveness to different governmental levels, we find that firms strategically response to the institutional pressures according to their structural embeddedness shaped by their position to the government in China.
Third, when looking through an institutional perspective, we can establish institutional complexity within a single logic. The vertical dimension (related to hierarchical levels) and the horizontal dimension (connected to manifestations of the logic with the instruments) are the two dimensions of a state logic, both of which differently impact corporate environmentalism in China. Whereas extant work has attributed institutional complexity to the concurrence of multiple logics (Greenwood et al., 2011; Kraatz & Block, 2008; Pache & Santos, 2013), our contribution is thus to institutional theory by attributing institutional complexity to different facets of a single logic. A single logic may not be manifested by a monolithic set of demands, but can be complex in multiple dimensions itself.

Having addressed this, our research also contributes to institutional logics studies by revealing the underlying reasons of the potential (in)compatibilities among logics, which is yet to be explored (Greenwood et al., 2011). Certain facet of a logic might be compatible with other facets of another logic due to the overlapping expectations on the organizations, which may lead to the symbiosis of the logics; while the non-compatible facets of different logics may result in conflicting demands to the organizations. The underlying interaction mechanism among the facets of each logic, or how the closeness among different facets of each logic can exert institutional influence on organizations can be further explored.
REFERENCES


Figure 1 Growth rates of CO₂ emission, energy consumption, and GDP in China
(Calculated from the raw data on the website of World Bank)

Figure 2 Proportion of environment protection-related issues in the annual government report
(Source: Website of the Central People’s Government of the People’s Republic of China)
Figure 3 Structure of the Chinese political system

![Diagram of the Chinese political system]

Vertical conflicts from different interests of every level of state governance

Consistency from different instruments for identical targets

Table 1 State influence on a vertical dimension

<table>
<thead>
<tr>
<th>State level</th>
<th>Values and/or goals represented</th>
<th>Behavioral expectations towards local firms</th>
<th>Structural positions of the firms caused by the controlling government</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central government</td>
<td>Build a Conservation Culture in the nation as the summation of the material achievement, spiritual achievement, and institutional achievement in the process of protecting and building a beautiful ecological environment for human beings</td>
<td>Save energy, reduce emissions, use clean production processes, and be environmentally responsible for the local community while making contributions to the local economy</td>
<td>Positioned below (or controlled by) the very top of the political system in China that guides the future direction of the entire nation</td>
</tr>
<tr>
<td>Local governments</td>
<td>Act in line with the central government to sustain the leadership while remaining relatively autonomous and striving for regional economic development</td>
<td>Be profitable and contribute to the local area while avoiding violating environmental regulations and laws set by the central government</td>
<td>Positioned below (or controlled by) the governments that are subordinate to the central state, with local interests*</td>
</tr>
</tbody>
</table>

*In the political hierarchical structure of China, the superior government controls the subordinate ones and delegates power to them in an order of central->provincial->municipal->county->town->village.
### Table 2 State influence on a horizontal dimension

<table>
<thead>
<tr>
<th>State instruments</th>
<th>Values and/or goals represented</th>
<th>Behavioral expectations on local firms</th>
<th>Structural positions of the firms caused by the manifestations</th>
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</thead>
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<tr>
<td>Regulation instrument</td>
<td>Increase community good by strengthening the effectiveness of rules and regulations.</td>
<td>Obey the regulations, rules, laws, policies set by the state.</td>
<td>Determined by the stringency of regulation.</td>
</tr>
<tr>
<td>Economic instrument</td>
<td>Encourage the corporate environmental responsibility using fiscal subsidies.</td>
<td>Make full use of the subsidies and carry out relevant performances.</td>
<td>Determined by the amount of subsidy.</td>
</tr>
<tr>
<td>Public instrument</td>
<td>Raise awareness and encourage cooperation with the community by disclosing environmental malpractices.</td>
<td>Get aware of the (potential) harmful influence to the community and become environmentally responsible.</td>
<td>Determined by the malpractice caught.</td>
</tr>
</tbody>
</table>

### Table 3 Codes to measure the corporate environmentalism in the Chinese listed firms

**Corporate environmentalism**

1. Aspect a firm concentrates on environmental protection itself
   1.1 Alternative resources or power, healthy materials
   1.2 Actual emission amount or emission reduction amount
   1.3 Actual energy consumption amount or energy saving amount
   1.4 Contribution to the community on environmental issues
   1.5 Environmental protection project tracking
   1.6 Equivalent energy saving and emission reduction amount (ESER)
   1.7 Execution of the Environmental Protection System
   1.8 Expenditures on environmental performance
   1.9 Meeting certain environmental standards or regulations
   1.10 Participation of events, organizing one-shot or routine events for popularizing ESER
   1.11 Paperless office
   1.12 Recycling amount
   1.13 Relevant equipment used for ESER
   1.14 Requirements for individuals on environmental issues in the firm
   1.15 Times or description of welcoming the supervision from the community
   1.16 Waste disposal amount

2. Stakeholders’ reaction to the firm’s requirements

### Table 4 The calculation of the hierarchical distance to the central government

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<sup>†</sup>The value of hierarchical distance is one unit more in the Non-SOEs than the SOEs, because there is also one unit distance from a firm to its nearest local government for the Non-SOEs.
**Sub-provincial municipals** are those cities that are designated to be on the equivalence level of a province when economic development and social development are planned by the central government.

* Private firms are not directly owned by the municipals, provinces, or the central state. Therefore, they are under the control of all levels, the highest of which is the region/county in a Municipality. Such region/county has an equivalent level with the municipals. This is why the distance for the non-SOEs starts from value 3.

### Table 5: Descriptive statistics

<table>
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<tr>
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<th>Max</th>
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† p<0.10, * p<0.05, ** p<0.01, *** p<0.001
Table 6 Random Effect Regression for the corporate environmentalism

<table>
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† p<0.10, * p<0.05, ** p<0.01, *** p<0.001