IS CORPORATE GOVERNANCE QUALITY ASSOCIATED WITH CORPORATE SOCIAL RESPONSIBILITY QUALITY? EVIDENCE FROM STATE-OWNED ENTERPRISES (SOES) AND NON-SOES OPERATING IN CHINA

By

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STATEMENT OF CANDIDATE

I certify that the work embodied in this Thesis entitled 'Is Corporate Governance Quality associated with Corporate Social Responsibility Quality? Evidence from State-Owned Enterprises (SOEs) and Non-SOEs Operating in China' has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree to any other university or institution other than Macquarie University.

I also certify that the Thesis is an original piece of research and it has been written by me. Any help and assistance that I have received in my research work and the preparation of the Thesis itself have been appropriately acknowledged.

Finally, I certify that all information sources and literature used are indicated in the Thesis.

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ABSTRACT

Recent developments in the Chinese capital market have increased the demand for corporate social responsibility (CSR) disclosure by listed firms. However, compared to the developed world, China has a short history of CSR. Further, Chinese firms generally have immature corporate governance systems. This Thesis examines the relationship between corporate governance and CSR in two different types of Chinese firms, namely, stateowned enterprises (SOEs) and non-state-owned enterprises (non-SOEs). Based on stakeholder theory and legitimacy theory, this Thesis hypothesises that corporate governance has a positive relationship with firm CSR quality, that this positive relationship is greater for SOEs than for non-SOEs, and finally that the positive relationship among Chinese firms' CSR quality and corporate governance quality is higher for SOEs operating in heavy industries than for non-SOEs operating in those industries. The hypotheses are mainly tested by ordinary least squares regression analysis. The sample for this Thesis comes from the Top 100 CSR index firms from the Shanghai, Shenzhen, and Hong Kong Stock Exchanges. Overall, the Thesis finds that CSR quality is positively associated with corporate governance quality, and that the positive relationship between Chinese firms' CSR quality and corporate governance quality is higher for SOEs operating in heavy industries than for non-SOEs operating in those industries. However, the Thesis finds no general support for the hypothesis that Chinese firms' CSR quality is higher for SOEs than for non-SOEs.

Keywords: Corporate governance; Corporate social responsibility; Legitimacy theory; Stakeholder theory.

CHAPTER 1 INTRODUCTION

1.1. Introduction

This Thesis empirically investigates the potential relationship between corporate governance quality and corporate social responsibility (CSR) quality, using a sample of listed Chinese firms that includes both state-owned enterprises (SOEs) and non-SOEs.

China has experienced rapid growth in its economy and capital market since the 1990s. In addition, corporate governance has also developed over this period as well. For example, in 2003, Chinese listed firms' corporate governance reports indicate that more than one-third of the board of directors should be independent directors, and include at least one accounting professional (Zhu, Ye, Tucker, & Chan, 2016). CSR, which is a popular concept in developed countries, was introduced in the China capital market in 2008. That same year, China published the first reference book on preparing CSR reports (Marquis & Qian, 2013).

Corporate governance refers to the rules and principles by which a firm is directed or controlled; it plays an important role with regard to firm management and business operations (Tricker, 2015). It not only relates to corporate executives, but also to other firm stakeholders, including shareholders, creditors, and governments, in addition to society generally (Bottenberg, Tuschke, & Flickinger, 2017). In this way, corporate governance is responsible for resolving potential conflicts of interest among these

stakeholders, such as conflicts between individual shareholders and firm management (Bottenberg et al., 2017). The recent rapid development of the Chinese capital market has sharpened these conflicts in Chinese firms (Xu, Zhu, & Lin, 2005).

In addition to corporate governance, CSR represents another important concept for China in recent times. Compared with other compulsory disclosures, CSR is a 'self-regulation' responsibility for firms. CSR covers information about business ethics, environmental impacts, and sustainability development, and not just financial information (Russo & Perrini, 2010). In this way, CSR is an additional mechanism for firms to deal with their relationship with stakeholders. Before 2008, Chinese firms did not prepare any CSR disclosures. However, after the release of the first reference book on preparing a CSR report in 2008 (Cheng, Lin, & Wong, 2016), more and more Chinese firms have started to prepare CSR reports. In 2009, the Shanghai and Shenzhen Stock Exchanges even published a 'responsibility index' which stresses the importance of CSR (Lin, 2010).

The increased attention by Chinese firms with regard to CSR indicates a trend towards globalisation in China. In particular, CSR requires Chinese firms to consider more carefully their moral responsibilities to the environment and to the communities they interact with, because if they become more internationally focused, this could significantly increase their impact on international communities. Hence these firms are obliged to be more responsible to all stakeholders (Chan, Watson, & Woodliff, 2014). CSR aims to demonstrate social accountability and the social cost/benefit of the target firm's current

business strategy and instruments (Patrizia & Carlotta, 2011), requiring the consideration of environmental and human issues and not just financial indicators. Given that corporate governance refers to the system and rules by which a firm is controlled and directed (Tricker, 2015), there is, potentially, a relationship between corporate governance and CSR. In fact, the growing needs of CSR require better corporate governance to ensure that firms' interests are properly aligned with the social interests of stakeholders and society generally (McWilliams, 2015).

1.2. Motivation and Contribution

This study specifically focuses on China because it represents a major developing country. Compared with developed countries, CSR is still at an early stage of development in China (Lin, 2010). Further, given that each economy has its own institutional background, findings in developed countries cannot simply be generalised or transferred to developing economies such as China's (Lin, 2010). Therefore, it is important to extend the CSR literature in more detail to developing economies like China's, so as to better understand CSR and corporate governance in their unique institutional environments. Further, China seems to be notorious for having sweatshops and significant environmental pollution problems (Lan, Kakinaka, & Huang, 2012). Therefore, the findings of this study are likely to have important implications for Chinese firms seeking to apply CSR, and also for their efforts to improve corporate governance quality.

This Thesis is thus motivated by several important research considerations. First, past research on CSR is based on the economies of developed countries that have advanced CSR systems (Schaltegger & Wagner, 2006; Ameer & Othman, 2012). Such systems do not exist in developing countries like China, however, and not much attention has been directed towards examining and understanding CSR disclosure in China in particular.

Second, in response to increasing criticism about the low quality of CSR in China (Yin & Zhang, 2012), the first Chinese reference book on CSR reports for listed firms was published in 2008 (Marquis & Qian, 2013), much later than in developed countries. Furthermore, this book showed that only 60% of SOEs and 40% of non-SOEs prepared CSR reports (Marquis & Qian, 2013), even though by this point the Chinese government encouraged all listed firms in China to prepare CSR reports.

Third, as previously indicated, the two types of firms operating in China are SOEs and non-SOEs. According to agency theory, these two kinds of businesses have different objectives, with the non-SOEs aiming to maximise profits, and the SOEs focusing on other non-profit-maximizing goals, such as social and political goals. Hence, there is likely to be significant differences between corporate governance and CSR practices in SOEs versus non-SOEs. China, therefore, provides an ideal setting for research on how corporate governance quality could affect CSR quality when the government is the controlling shareholder of the firm.

Finally, this Thesis is also likely to make several important contributions to the literature concerning appropriate policy for the development of both corporate governance and CSR quality in China. Many previous studies have focused on corporate governance and CSR in developed countries, such as Chan et al. (2014) and Money and Schepers (2007). As a developing country and a major emerging economy, however, China has a different culture and political climate as compared with those found in developed countries. Specifically, the Chinese government is much more powerful in directing firm development than in developed economies (Guan & Yam, 2015). Accordingly, this Thesis examines corporate governance and CSR performance in listed Chinese firms with majority government stock ownership (i.e., SOEs) and firms with limited (or no) government stock ownership (non-SOEs). Because the results of this study are related to the influence of government power (i.e., SOEs and non-SOEs) on corporate governance and CSR quality in listed firms, the results contribute to our understanding of firms with government power in developing countries generally. Ultimately, then, the results of this study may not only help Chinese firms to modify their corporate governance practices to obtain higher quality corporate CSR reports, but also serve as a reference point for other developing countries in the Asian region, including Cambodia, Indonesia, Thailand, Vietnam, and others.

1.3. Structure of the Thesis

This Thesis consists of the following parts: Chapter 2 provides a literature review, summarising previous research on the history and theory of corporate governance, on

the relationship between corporate governance and CSR, and on CSR development in China specifically. Based on this analysis, several research hypotheses are developed. Chapter 3 then describes the research design used to test those hypotheses, and Chapter 4 reports and analyses the empirical results. Finally, Chapter 5 provides further discussion of the key issues revealed by the analysis, and concludes the Thesis with recommendations for future research.

CHAPTER 2 LITERATURE REVIEW AND RESEARCH HYPOTHESES

2.1. Introduction

This chapter reviews past research on the relationship between corporate governance and CSR, and develops several research hypotheses on the basis of that review. In particular, Section 2.2 briefly considers the history of CSR in China, while Section 2.3 explains the Chinese CSR index standards. Section 2.4 then introduces Chinese corporate governance development, while Section 2.5 presents past research about corporate governance and CSR, Section 2.6 outlines theories relevant for this Thesis, and Section 2.7. develops hypotheses for empirical testing. Finally, Section 2.8 summarises the chapter.

2.2. Chinese CSR development

China started to develop policies on CSR in 1999. At first, CSR was not widely accepted amongst listed Chinese firms. In 2001, however, China entered the World Trade Organisation (WTO), which drove Chinese firms to consider international market factors, instead of only domestic market factors (Adhikari & Yang, 2002). More complex market situations also required Chinese firms to foreground questions about human rights, environmental protection, societal harmony, and so on. In addition, since entering the WTO, China has been affected by the UN Global Compact—a project to promote CSR around the world—and Social Accountability 8000—a standard requiring auditors to investigate issues of human rights within target firms (Schmidpeter & Stehr, 2015). Increasing international transactions also drove Chinese firms to consider foreign investment, as well as different stakeholders, and hence encouraged CSR practice (Lu & Abeysekera, 2014). In 2004, The Chinese Institute of Labor and Social Security defined developed-world standards as requiring firms to prioritise all stakeholders' interests instead of only the main shareholders' interests. CSR began to be seen as a method for meeting the requirements of social harmony and protecting workers' rights.

In the 2000s, Chinese consumers and investors continued to focus on CSR. In contrast with the situation in the 1990s, when consumers and investors evaluated firms, they now reviewed not only the target firm's financial performance, but also its performance with respect to the environment, social issues, and human rights (Tian, Wang, & Yang, 2011). As a result, Chinese firms sought to improve their comprehensive performance to attract both consumers and investors. However, Ramasamy and Yeung (2009) argue that Chinese consumers do not concentrate on ethical or philanthropic issues in CSR per se, and that people in different regions of China have different levels of awareness of CSR.

After the release of 'Guidelines for SOEs' CSR' in 2008 and 'Guidelines of the Shanghai Stock Exchange for the Environmental Protection Information of Listed Companies', the Chinese Business for Social Responsibility (BSR) group registered an increase in CSR reporting in Chinese listed companies, as shown in Figure 1. This figure demonstrates that in 2008, only 121 listed firms prepared CSR reports, whereas in 2009 and 2010 the number increased to 533 and 703 firms, respectively. This indicates that CSR has become widely accepted among Chinese listed firms since 2008.

[INSERT FIGURE 1 HERE]

The CSR state of affairs in China since 2019 is presented in Figure 2, which shows that CSR has become even more widely accepted among Chinese firms, and other types of organisations, over the past decade.¹

[INSERT FIGURE 2 HERE]

According to 'GoldenBee Research on CSR Reporting in China 2017', CSR in China has experienced a stepwise development, as reflected by the number of quality CSR reports. In particular, more than 25% of CSR reports from listed firms were recognised as 'excellent' in quality. Further, GoldenBee (2017) also emphasises that Chinese firms today are paying more attention to the disclosure of corporate strategy for societal development, in addition to specific plans that relate to all the stakeholders, including customers, employees, suppliers, the environment, communities, shareholders, and the government.

However, although Chinese CSR has developed a great deal recently, there are still some problems due to the immaturity of the CSR system. GoldenBee (2017) indicates that though the innovation, materiality, and readability of CSR have shown consistent

¹ The light-yellow bar in Figure 2 indicates the number of CSR reports for all Chinese organizations, while the dark-yellow bar indicates CSR reports from firms.

development, credibility remains at a low level, and has even regressed compared to past years' performance. This trend suggests that many Chinese firms produce their CSR information primarily to meet government requirements. It also reflects the fact that there are many imperfections in Chinese CSR rules, meaning that CSR information from Chinese firms is not always trustworthy and CSR information may not reflect companies' CSR level correctly (GoldenBee, 2017).

GoldenBee (2017) also points out that the overall CSR quality in listed Chinese firms is higher than that in unlisted firms. Moreover, Chinese firms listed on the Hong Kong Stock Exchange seem to maintain higher CSR quality than those listed on the Shanghai Stock Exchange, particularly in the areas of worker, environmental, and supplier information. Finally, in terms of industries, GoldenBee (2017) finds that Chinese listed firms prepare higher-quality CSR reports in the storage & transport, power, and mining industries.

2.3. The Chinese CSR index standard

The basis of the China CSR Index is the China CSR Research System (GoldenBee, 2017). Specifically, the China Corporate Social Responsibility Research system is based on stakeholder theory and 'triple bottoms' theory (GoldenBee, 2017). The triple bottoms theory encompasses the economy, society, and the environment, and the CSR Research System evaluates CSR reports according to the depth and breadth of CSR information relating to different stakeholders, including consumers, debt holders, the environment, the government, and others (GoldenBee, 2017).

Further, GoldenBee (2017) provides details about the China CSR index, which is divided into three main parts: (1) the stakeholder index, (2) the comprehensive index, and (3) the classification index. The stakeholder index contains information regarding shareholders, consumers, workers, suppliers, the environment, communities, social organisations, the government, the news media, and financial and monitoring organisations. The comprehensive index contains information about innovation, readability, materiality, and completeness, as well as comparability and credibility. Finally, the classification index contains information concerning industry classification, area classification, ownership classification (i.e., SOE or non-SOE), scale classification, and funding-method classification (i.e., listed or unlisted).

2.4. Chinese corporate governance development

The process of modern corporate governance in China is closely related to the rapid development of 'Reform and Opening' in 1978 (Jing, 2017). In the 1980s, Chinese SOEs first issued stocks; subsequently, in 1990 and 1991 the formal Chinese stock market started in Shanghai and Shenzhen. Later in the 1990s, in response to the global financial crisis (GFC), Chinese corporate governance experienced rapid development, and in the early 21st century the Chinese government called for listed firms to issue financial reports, appoint independent directors, and institute board management.

According to Clarke (2003), Chinese corporate governance, termed 'Gongsi Zhili', covers the regulatory and interests of all firm members, while shareholders are considered as the most important group. Chinese corporate governance centres on explaining agency problems among the two main types of firms, SOEs and non-SOEs. Generally speaking, from the early 1990s to around 2005, the most important Chinese corporate governance reform trends followed the international standard. During this period, many Chinese monitoring organisation members actively attended global corporate governance meetings. They also translated advanced corporate governance theories and cases from developed countries into Chinese rules, laws, and guidelines (Allen & Li, 2018). However, the GFC from 2007 to 2009 reduced somewhat the enthusiasm for this process (Allen & Li, 2018).

Taken as a whole, Chinese corporate governance development can be divided into four periods. The first period is the 1980s. During this period, Chinese firms started to approach the international market, as well as corporate governance concepts from the western world. This first wave of development included new firm formations in the Chinese market, with firms issuing shares and thus establishing the first security firms. China's first initial public offering (IPO) was in 1984, by a company from Shanghai. After that, Shanghai firms began to trade stocks in the mid-1980s. In 1986, the first stock exchange was established in Shenyang. Then, in 1987, Shenzhen Development Bank conducted a landmark IPO, which can be seen as a milestone for the Chinese stock

exchange. That milestone created long-term enthusiasm for the stock exchange among Chinese firms (Allen & Li, 2018).

The second period was the 1990s, with the Shanghai Stock Exchange being established in December 1990 and the Shenzhen Stock Exchange in July 1991. Subsequently, all new issuing shares and firm listings were restricted to these two stock exchanges. The primary goal of this action was to accelerate the restructuring of SOEs and to reduce the pressure on bank loans. In this situation, the 'modern enterprise system' was established; this system allowed SOEs to obtain a certain degree of autonomy from the government. In fact, the main purpose of the system was to reduce the impact of administrative interventions and the influence of major shareholders. This period laid the foundations for modern Chinese corporate governance. For example, in 1999, the Chinese Security Regulatory Commission (CSRC) published new 'Suggestions for Standardized Operation and Reform of Overseas Listed Companies' (Allen & Li, 2018).

The third period spanned the years 2000 – 2010, during which Xiaochuan Zhou, the chairman of the CSRC (and then president of the People's Bank of China), set a series of landmark standards for Chinese listed firms. As mentioned previously, regulations in the 1990s were designed to prepare for the restructuring of the first batch of SOEs and to help those firms that were listed overseas have higher-quality corporate governance standards. The goal was to help domestic firms improve their corporate governance level. However, sudden changes in policy caused much disturbance among the investors and

led to large fluctuations in stock prices around 2005, as shown in Figure 3. In 2005, the Chinese government completed the reform of SOEs' stock ownership, with the Shanghai securities composite index fluctuating a lot around that time. More specifically, in January 2002, the CSRC issued the 'Code of Corporate Governance for Listed Companies', as well as regulatory principles for banks in 2005 (Organisation for Economic Co-operation and Development [OECD], 2011).

[INSERT FIGURE 3 HERE]

The final period stretches from 2010 until today. The key development of this period was Jingping Xi's selection as president of the People's Republic of China. Some reforms during this period can be seen as an extension of previous policies. For example, at the beginning of this decade, in 2011, new rules were formulated for punishing fraudulent activities. The current 13th Five-Year Plan (2016-2020) similarly focuses on improving the economic and society environment. Increasingly, domestic investment managers have been encouraged to consider Economic, Society, and Governance (ESG) factors in their investment decisions (OECD, 2011). In June 2018, the CSRC issued a modified set of 'Principles for Listed Companies' Corporate Governance (2002 edition)'. Although the modified principles continue to refer to the principles of corporate governance from the OECD, the new modified principles for the first time add content related to the party committee (OECD, 2011).

In summary, the Chinese corporate governance system has developed enormously since the reform initiative of 1978. Although Chinese listed firms are becoming more and more internalised, the corporate governance system is becoming more mature. Chinese corporate governance principles were initially inspired by the western world; nowadays, though, Chinese corporate governance principles consider many factors specific to the Chinese business environment, such as intervention by the party committee or government. Overall, as compared to the western world, China's central government exerts more power in the corporate governance environment. Hence the Chinese corporate governance environment differs significantly from that in developed countries, at least in certain respects.

2.5. Previous research

Both corporate governance and CSR denote important topics in the extant literature, with substantive research having been conducted on both issues. However, most of the research focuses on corporate governance and CSR in developed countries. Empirical research on developed countries concludes that, as a whole, firms that place emphasis on CSR practices have higher financial performance (e.g., Ameer & Othman, 2012). Research by Kolk (2003) also reports an increase in firm value associated with CSR. Zu and Song (2009) suggest that, in China specifically, CSR contributes to enhancing two major aspects of monitoring in the management system: (1) the prevention of insider self-dealing; and (2) improvement in investment efficiency. Further, the positive relationship

between CSR and firm performance is stronger in SOEs than in non-SOEs (Gui-shang, 2001).

Other studies carried out in developing countries, such as those by Freedman and Jaggi (1988), Belkaoui and Karpik (1989), Montabon, Sroufe, and Narasimhan (2007), Vormedal and Ruud (2009), Mishra and Suar (2010), and Loannou and Serafeim (2017) report that CSR contributes to improving firm performance. In addition, Michelon (2013) shows that when firms link their CSR plans to possible preferences, they can maximise their CSR efforts to improve firm performance through stakeholders and channel resources. In addition, regarding the link between corporate governance and CSR, Yusuf and Maryam (2015) examined U.K. listed firms, and their results suggest that to increase a target firm's financial performance, more effort should be placed on improving CSR quality.

Li and Zhang (2010) found that, unlike managers in firms from developed countries such as Australia, the U.K., and the U.S., managers in Chinese firms lack an understanding of regulatory costs and stakeholder influence. Therefore, CSR may involve a governance mechanism to monitor executives, encouraging them to make a profit for all of the firm's stakeholders and not just themselves (Greenley & Foxall, 1997). Evidence suggests that firm performance can be improved through such monitoring. Further, Sun, Salama, Hussainey, and Habbash (2010) conclude that the composition of a firm's commissioners and its audit committee can contribute to improving that firm's earnings. These factors

are therefore important aspects of corporate governance. In this way, both CSR and corporate governance contribute to firms' financial performance.

As already indicated, in addition to research that investigates corporate governance and CSR separately, some researchers combine them to identify a potential relationship. However, their results on the relationship between corporate governance quality and CSR quality appear to be inconsistent. Kock, Santaló, and Diestre (2012) find a positive relationship between CSR and corporate governance, while Arora and Dharwadkar (2011) report a negative relationship. Further, Ducassy, and Montandrau (2015) find that concentrated ownership could lead to negative side effects on CSR quality, because the main shareholders may not be willing to spend their own money on CSR, which benefits all the stakeholders. This research is based on agency theory, which emphasises the role of conflicts of interest among different firm stakeholders. Finally, research by Oh, Chang, and Kim (2018) finds that a similar level of CSR can be achieved by different combinations of corporate governance mechanisms, suggesting that there is a substitution effect. More specifically, one corporate governance mechanism may affect other mechanisms.

2.6. Theory

The theory for this Thesis is based on both legitimacy and stakeholder theory. Legitimacy theory holds that a firm should act in congruence with a society's norms and values, meaning that the firm needs to consider aspects of its business strategy that may affect its legitimacy, or perceived legitimacy (Frynas & Stephens, 2015). In this way, corporate

governance should work to ensure that corporate strategies are consistent with social expectations. Further, CSR focuses on disclosing information related to the environment and society, particularly for heavy industrial firms (O'Dwyer, Owen, & Unerman, 2011). At the present time, China is suffering from high pollution because modern organisational development has resulted in many negative environmental impacts.

Stakeholder theory argues that a firm should respond not only to its shareholders, but also to other stakeholders, including the government, creditors, and any other affected communities (Ching & Gerab, 2017). However, Martínez, Fernández, and Fernández (2016) argue that without the support of a main stakeholder, firms find it difficult to be going concerns. Accordingly, corporate governance needs to balance the interests of the main stakeholder with those of the other stakeholders in the firm. In terms of CSR and corporate governance, Sami, Wang, and Zhou (2011) argue that corporate governance can be seen as a mechanism that guides the firm's daily operations and aims to achieve long-term success for that firm. Moreover, Sami et al. (2011) also argue that corporate governance should achieve a balance among all stakeholders of the firm, such as management, shareholders, boards of directors, regulators, and lenders. Hence, CSR requires the firm to disclose detailed information for that firm, including information not only about financial performance but also about environmental and social impacts, human rights, and overall working culture.

2.7. Development of Research Hypotheses

The relationship between corporate governance and CSR quality can be investigated according to stakeholder theory and legitimacy theory. From a legitimacy standpoint, CSR requires firm strategies to be consistent with social and environmental harmony (Zhao, 2012). Generally speaking, firm strategy is controlled by corporate governance. From a stakeholder standpoint, CSR focuses on reliable firm information and good corporate governance, emphasising the need to balance the interests of the various stakeholders within the firm (Sami, Wang, & Zhou, 2011). Corporate governance, from this perspective, can produce an objective and transparent firm management system which can, in turn, improve CSR quality.

Consequently, both theoretical perspectives suggest that a firm with better corporate governance may have higher-quality CSR. The following hypothesis can therefore be proposed:

H1: Chinese firms' CSR quality is positively associated with corporate governance quality.

CSR has both internal and external benefits for the target firm (Basil & Erlandson, 2008). With respect to internal benefits, CSR helps the target firm identify any potential opportunities and risks of corporate investment projects because CSR pays attention to different aspects of corporate strategy, including the economy, society, environmental issues, and human rights. Corporate governance is responsible for the firm's risk management and strategy design (Wu, Marshall, Chipulu, Li, & Ojiako, 2014). At the same

time, SOEs are controlled by the Chinese government, and they are therefore likely to reflect political impacts directly. By contrast, non-SOEs are likely to show a lag reflection (S. Li & Xia, 2008). The point to be emphasised here is that, because China is an emerging economy, Chinese firms' CSR are particularly sensitive to government policy. Hence, in terms of SOEs versus non-SOEs, the following hypothesis can be proposed:

H2: Chinese firms' CSR quality is higher for SOEs than for non-SOEs

Finally, in China, the most important industries are under the control of the government, with SOEs therefore playing an important role in the research and development of heavy industries (e.g., Liou, 2009). According to the Blue Book of Corporate Social Responsibility (2009-2017), heavy industries are directly related to CSR issues, including air and water pollution. Hence, in terms of SOEs versus non-SOEs, the following additional hypothesis can be proposed:

H3: The positive relationship between Chinese firms' CSR quality and corporate governance quality is stronger for SOEs operating in heavy industries than for non-SOEs operating in those industries.

2.8. Summary

This chapter has described the historical development of both CSR and corporate governance in China. It has also reviewed previous research about corporate governance and CSR, in China as well as other countries. In addition, the chapter has connected corporate governance and CSR to related theories, including stakeholder and legitimacy

theory. Finally, the chapter presents three hypotheses for empirical testing. In Chapter 3,

the research design employed in the Thesis is developed and discussed.

CHAPTER 3 RESEARCH DESIGN

3.1. Introduction

This chapter presents the research design used to test the three hypotheses stated in Section 2.7 of the previous chapter. Section 3.2 explains the sample selection. Sections 3.3, 3.4, and 3.5 then describe the dependent variable, independent variables, and control variables, respectively. Section 3.6 turns to the ordinary least squares (OLS) regression models estimated in the Thesis, and Section 3.7 explains the propensity score matching (PSM) analysis used in the Thesis. Finally, Section 3.8 summarises the chapter.

3.2. Sample selection

As discussed above, this study focuses on the relationship between corporate governance and CSR quality. Therefore, data were collected for the period 2008 - 2018 from the China Stock Market and Accounting Research Database (CSMAR).² The sample period begins with 2008, because this represents the first year in which China introduced CSR reporting in its capital market. Data related to CSR and corporate governance that are not included in the CSMR database were manually collected from Chinese firms, published annual reports, and/or integrated reports.

² CSMAR is a database which contains the market and accounting data (from 1994 to 2018) for more than 1200 Chinese listed firms.

3.3. Dependent variable

The dependent variable employed in this study is represented by CSR quality (CSR). It is measured based on The Blue Book of Corporate Social Responsibility (2009-2017), which contains the CSR development index of the Top 100 SOEs in China, in addition to the CSR development index of the top 100 non-SOEs (i.e., private firms) in China. This Thesis employs a composite measure of the CSR development indexes for the top 100 SOEs and non-SOEs as the dependent variable.

3.4. Independent variables

This study considers several independent variables in terms of corporate governance quality, such as independent directors, board size, and Big 4 auditors.

3.4.1. Independent directors

Independent directors (or outside directors) (IND_DIR) consist of people who do not have a material relationship with the firm (Wang, Xie, & Zhu, 2015). Independent directors can provide their expertise and contribute to corporate strategy design without bias (Wang et al., 2015). In Chinese firms, conflicts of interests are common as individuals' interest always affects corporate strategy. Independent directors can sometimes reduce the negative effects of such conflicts because they consider the whole firm's interests instead of their own personal interests (Ma & Khanna, 2016). In addition, CSR requires that all stakeholders benefit, not just main stakeholders, and independent directors can facilitate this distribution of benefits because the independent directors do not have a material or pecuniary relationship with company. Therefore, we expect a positive relationship between independent directors and CSR quality. This independent variable is measured as the proportion of independent directors on the board.

3.4.2. Board size

Huang and Wang (2015) suggest that a firm with good corporate governance should have a sufficient size board (BRDSIZE) to meet the firm's business requirements and deal with situations (even during changes in board membership) without undue interference. More specifically, sufficient board size contributes to deliberations, board skills and competencies, and board diversities (Tulung & Ramdani, 2018). Therefore, we expect a positive relationship between board size and CSR quality. Board size is measured as the number of directors on the board of directors.

3.4.3. Big 4 auditors

External auditors play a significant role in monitoring firms (Holm & Laursen, 2007). Compared with internal auditors, external auditors are independent, which means they can report on a firm's financial information objectively without being influenced by their own interests (Holm & Laursen, 2007). In this way, external auditors' decisions are likely to be based on all stakeholders' interests. This meets one of the key requirements of CSR. Further, compared with other external audit services, Big 4 audit firms (BIG4) should provide a higher audit quality (Eshleman & Guo, 2014). Hence, if a firm hires a Big 4 external auditor, it may have a higher audit quality, as well as better corporate

governance quality. Therefore, we expect a positive relationship between foreign Big 4 auditors and CSR quality. The independent variable of Big 4 external auditing is measured as a dummy variable, which has a value of 1 for a firm that employs a Big 4 auditor, and 0 otherwise.

3.5. Control variables

The Thesis includes a number of control variables in the regression models to control for other effects on CSR quality, including firm size (FSIZE) (measured as the natural logarithm of total assets), leverage (LEV) (measured as long-term debt divided by total assets), return on assets (ROA) (measured as pre-tax income divided by total assets), the marketto-book ratio (MB) (measured as the market value of equity divided by the book value of equity), and SOE (measured as a dummy variable, which has a value of 1 if the firm is an SOE, and 0 otherwise) (see e.g., Abu Bakar & Ameer, 2011; Lanis & Richardson, 2011; Richardson, Wang, & Zhang, 2016). In addition, industry sector and yearly fixed-effect dummy variables are also included in the regression model. It should be noted that the Thesis makes no sign predictions for the control variables, given the exploratory nature of this research.

3.6. OLS Regression models

The OLS regression model used to test the first hypothesis concerning whether Chinese firms' CSR quality is positively associated with corporate governance quality is estimated as follows:

CSR quality (mark) = $a_0 + \partial 1$ (independent directors) + $\partial 2$ (board size) + $\partial 3$ (big4 auditors) + controls (1)

The OLS regression model employed to test the second hypothesis concerning whether CSR quality is higher for SOEs than non-SOEs is estimated as follows:³

CSR quality (mark) =
$$a_0 + \partial 1$$
 (independent directors) + $\partial 2$ (board size) +
 $\partial 3(big4 auditors) + \partial 4$ Dummy_soe + $\partial 5$ (independent directors x Dummy_soe) +
 $\partial 6$ (board size x Dummy_soe) + $\partial 7$ (Big4 auditors x Dummy_soe) + controls (2)

The OLS regression model used to test the third hypothesis concerning whether the positive relationship between Chinese firms' CSR quality and corporate governance quality is stronger for SOEs operating in heavy industries than non-SOEs operating in those industries is estimated as follows:

CSR quality (mark) = $a_0 + \partial 1$ (independent directors) + $\partial 2$ (board size) + $\partial 3$ (institutional stock ownership) + $\partial 4$ (big4 auditors)+ controls (3)

In particular, heavy-industry sub-samples will be constructed for SOE and non-SOE subsamples, and then regression models will be estimated based on Equation (3) above for

³ It should be noted that this regression model is similar to Eqn. (1) above, except that several interaction terms (SOE*IND_DIR, SOE*BRDSIZE, and SOE*BIG4) are included.

the SOE and non-SOE sub-samples. Thereafter, *t*-tests will be computed, based on the regression coefficients between the SOE and non-SOE sub-samples, to investigate whether the sub-samples have any statistically significant differences.

3.7. PSM analysis

Apart from OLS regression analysis, this Thesis also applies PSM analysis for the main hypothesis (H1) to deal with potential endogeneity identification concerns. The Thesis follows Shipman, Swanquist, and Whited (2017), initially estimating a logistic regression model with a dependent variable that is constructed based on a dummy for CSR above/below the median, and the identical set of control variables used in our regression model in Eqn. (1) above. Next, using the predicted propensity scores from the logistic regression, the Thesis matches on a one-to-one basis by industry and year the observations for the treatment firms to values established for the control firms. Following research by Rosenbaum and Rubin (1985), the Thesis uses the nearest neighbour (without replacement) approach. Finally, the matched pairs are combined into a pooled sample of 813 firm-year observations and OLS regression analysis is carried out.

3.8. Summary

This chapter develops the research design used to empirically test the main hypotheses of this Thesis. The sample selection, variables, and regression model, in addition to the PSM analysis, are described in detail. In Chapter 4, the empirical results are reported and analysed for each of the hypotheses.

CHAPTER 4 EMPIRICAL RESULTS

4.1. Introduction

This chapter reports and analyses the empirical results. In particular, Section 4.2 presents the descriptive statistics, while Section 4.3 shows the correlation results. Section 4.4 then reports the regression results and Section 4.5 presents the PSM results. Section 4.6 summarises.

4.2. Descriptive statistics

The descriptive statistics for the variables used in the regression model are reported in Table 1. The dependent variable, CSR, has a mean (median) of 45.588 (49.800). Further, the independent variables, IND_DIR, BRDSIZE, and BIG4 have means (medians) of 0.385 (0.36), 10.430 (9.000), and 0.588 (1.000), respectively. Finally, the control variables, FSIZE, LEV, ROA, MB, and SOE have means (medians) of 6.935 (6.900), 0.655 (0.66), 0.234 (0.120), 2.30 (1.700), and 0.626 (1.000), respectively. Overall, the mean/median and range of the variables appear to be satisfactory.

[Insert Table 1 Here]

4.3. Correlation results

The correlation results are presented in Table 2. We find that BRDSIZE and BIG4 are both significantly positively associated with CSR (p < 0.01). These results show that Chinese

firms that have larger boards and that appoint a Big 4 auditor have higher corporate governance quality. In terms of the control variables, we observe that BRDSIZE, BIG4, FSIZE, LEV, and ROA (MB) are significantly positively (negatively) associated with CSR (p < 0.05 or better). Hence firms with higher (lower) size, leverage, and profitability (growth) have higher corporate governance quality. Finally, we also find that collinearity between our explanatory variables is only moderate. In particular, the highest correlation is between FSIZE and LEV (r = 0.54; p < 0.01), which is acceptable (see Hair, Black, Babin, Anderson, & Tatham, 2006).

[Insert Table 2 Here]

4.4. OLS Regression results

4.4.1. Regression results for H1

Table 3 presents the regression results for H1, which investigates whether Chinese firms' CSR quality is positively associated with corporate governance quality. The Thesis uses the following as proxies for corporate governance quality: (1) independent directors on the board; (2) board size; and (3) the presence of a Big 4 auditor. It is found that both BRDSIZE and BIG4 are significantly positively associated with CSR quality (p < 0.01). However, IND_DIR is found not to be significantly associated with CSR quality. Taken together, the empirical results in Table 3 provide some support for H1.

Regarding the control variables in the regression model, it is observed in Table 3 that FSIZE, ROA, and SOE are significantly positively associated with CSR quality, while LEV and MB are significantly negatively associated with CSR quality (p < 0.05 or better). These findings are consistent with previous research (e.g., Abu Bakar & Ameer, 2011; Lanis & Richardson, 2011; Richardson, Wang, & Zhang, 2016). Consequently, Chinese listed firms that have higher (lower) firm size, have higher (lower) profitability and SOEs (debt and growth) have higher (lower) levels of CSR quality according to the regression results.

[Insert Table 3 Here]

4.4.2. Regression results for H2

Table 4 reports the regression results for H2, which considers whether Chinese firms' CSR quality is higher for SOEs than for non-SOEs. This hypothesis was tested by including several interaction terms in the regression model, which are represented by: (1) SOE*IND_DIR; (2) SOE*BRDSIZE; and (3) SOE*BIG4. The Thesis finds that the SOE*BRDSIZE interaction term is significantly negatively associated with CSR quality (p < 0.01), while the other interaction terms (SOE*IND_DIR and SOE*BIG4) are insignificant. Thus, these findings are inconsistent with H2, which is therefore not supported by the empirical results. Overall, there appears to be no improvement in CSR quality for Chinese listed firms simply by their happening to be SOEs.

In terms of the other independent variables in the regression model, it is observed that both BRDSIZE and BIG4 are significantly positively associated with CSR quality (p < 0.01). However, IND_DIR is again found not to be significantly associated with CSR quality. These regression results are consistent with those previously shown in Table 3.

Finally, concerning the control variables, Table 4 demonstrates that FSIZE, ROA, and SOE are significantly positively associated with CSR quality, whereas LEV and MB are significantly negatively associated with CSR quality (p < 0.05 or better), in accordance with previous research (e.g., Abu Bakar & Ameer, 2011; Lanis & Richardson, 2011; Richardson, Wang, & Zhang, 2016).

[Insert Table 4 Here]

4.4.3. Regression results for H3

Table 5 presents the regression results for H3, which examines whether the positive relationship between Chinese firms' CSR quality and corporate governance quality is stronger for SOEs operating in heavy industries than for non-SOEs operating in those industries.⁴

⁴ Specifically, heavy-industry sub-samples were initially produced for SOE and non-SOE sub-samples. Regression models were then estimated based on Eqn. (3) above for the sub-samples. Then, *t*-tests were calculated, based on the regression coefficients between the SOE and non-SOE sub-samples, to analyse whether the sub-samples had any statistically significant differences.

First, Table 5 (Column 1) shows the regression results for the SOE sub-sample. It is found that BIG4 is significantly positively associated with CSR quality (p < 0.01). However, both IND_DIR and BRDSIZE are found not to be significantly associated with CSR quality in this regression model. In addition, for the control variables, the analysis indicates that FSIZE is significantly positively associated with CSR quality, whereas LEV and MB are significantly negatively associated with CSR quality (p < 0.10 or better).

Second, Table 5 (Column 2) reports the regression results for the non-SOE sub-sample. It is observed that BIG4 is significantly positively associated with CSR quality (p < 0.05), whereas both IND_DIR and BRDSIZE are not significantly associated with CSR quality in this regression model. Further, for the control variables, it is found that ROA and LEV are significantly positively associated with CSR quality, while FSIZE is significantly negatively associated with CSR quality (p < 0.05 or better). The results for the control variables in this regression model are somewhat different from the results in other regression models in the Thesis. This could be due, however, to the small size of the non-SOE sub-sample.

Finally, Table 5 (Column 3) presents the *t*-tests of statistically significant differences between the variables in the SOE and non-SOE sub-samples. It is found that statistically significant positive (negative) differences occur for BIG4 and FSIZE (LEV, ROA and MB) between the SOE and non-SOE sub-samples (p < 0.01). More specifically, in terms of H3, there is some evidence (i.e., for BIG4 in this case) indicating that SOEs in heavy industries

have higher CSR quality than non-SOEs in heavy industries. Consequently, the Thesis provides some support for H3.

[Insert Table 5 Here]

4.5. PSM results

The PSM results are reported in Table 6. Specifically, Panel A contains the logistic regression results, Panel B shows the covariate balance results, and Panel C presents the OLS regression results to empirically test H1.

First, the Thesis follows Shipman et al. (2017) and initially estimates a logistic regression model with a dependent variable that is constructed based on a dummy for CSR above/below the median, and the identical set of control variables employed in the regression model in Eqn. (1) above. Table 6 (Panel A) shows that FSIZE and SOE (MB) are significantly positively (negatively) associated with CSR quality (p < 0.01) in the logistic regression model.

Second, the covariate balance results are presented in Table 6 (Panel B). The Thesis achieves full covariate balance for the control variables (FSIZE, LEV, ROA, MB and SOE) (p > 0.10), which attests to the quality of the matching process implemented (i.e., the nearest neighbour (without replacement) approach (Rosenbaum & Rubin, 1985; Shipman et al., 2017).

Finally, the OLS regression analysis results to test H1 concerning whether Chinese firms' CSR quality is positively associated with corporate governance quality are shown in Table 6 (Panel C). It is found that both BRDSIZE and BIG4 are significantly positively associated with CSR quality (p < 0.01). By contrast, IND_DIR is found not to be significantly associated with CSR quality. Overall, these empirical results are consistent with the main results for H1 in Table 3. Therefore, the results are robust with respect to endogeneity identification concerns (e.g., Shipman et al., 2017).

[Insert Table 6 Here]

4.6. Summary

This chapter presents and analyses empirical results of tests of the three hypotheses developed in Chapter 3. Taken together, the empirical results provide some support for H1 (i.e., CSR quality is positively associated with corporate governance quality) and H3 (i.e., the positive relationship between Chinese firms' CSR quality and corporate governance quality is higher for SOEs operating in heavy industries than for non-SOEs operating in those industries), but no support for H2 (i.e., Chinese firms' CSR quality is higher for SOEs. In Chapter 5, the findings are discussed in further detail, and the conclusion for the Thesis is provided.

CHAPTER 5 CONCLUSION

5.1. Introduction

This Chapter provides the conclusion for the Thesis. In particular, Section 5.2 provides further discussion of the results of the analysis, while Section 5.3 considers limitations of the study. Finally, Section 5.4 outlines directions for future research.

5.2. Discussion

This study focuses on the relationship between corporate governance and CSR quality in Chinese listed companies. The regression results generally support the main hypothesis (H1), showing that there is a positive relationship between corporate governance and CSR quality in Chinese listed firms. In particular, the Thesis considers three corporate governance factors (i.e., independent directors, board size, and Big 4 auditors) as the main variables for research, with the regression analysis showing that the independent director variable is not significant.

According to Dawu and Jinsong (2003), the Chinese institutional environment is unable to properly verify the independent-director system, which leads to an inherent problem when it comes to listed firms using this system. Many Chinese listed firms choose to set up the independent director system simply to meet the requirements of 'Company Law of the People's Republic of China'. Thus, many Chinese listed firms' independent directors do not play their obligatory role in the firms' operations, failing to monitor managers. Further, according to the descriptive statistics (see Table 1), the median value for independent directors is 0.360, while the mean value for independent-director proportion is 0.385. Because the independent-director mean is so close to its median, this suggests that most Chinese listed firms have a similar independent-director proportion. The sample data also show that most of listed firms have three to four independent directors fail to play the key role of monitoring firms' managers, finding that only 4% of Chinese independent directors had quoted their board of directors' actions. Hence it is likely that the Chinese independent-director system is not as effective as it is in developed countries. Likewise, it is not unreasonable for the Thesis to find the independent-director variable to be not significant.

In contrast with the independent-director variable, the Thesis finds that the other two corporate governance variables of board size and Big 4 auditors are significantly positively associated with CSR. The sample data (see Table 1) indicate that firms normally hire Big 4 accounting firms as their external auditor. According to Perego (2009), Big 4 accounting firms positively affect the quality of reporting format and assurance procedures, which is consistent with the findings of this Thesis. In general, the use of Big 4 accounting firms signals high audit quality (see Eshleman & Guo, 2014), which can contribute to CSR. Fuente, García-Sanchez, and Lozano (2017) argue that board size can improve corporate transparency, which can be linked both to the diversity of directors on the board and also to the specialisation of functions that such diversity affords.

In addition, the Thesis also finds no significant improvement in CSR quality for Chinese listed firms simply because they are SOEs (i.e., H2 is not supported). As mentioned in chapter 2, since China joined the WTO in 2001, the 'Chinese market economy' has experienced strong economic growth (Adhikari & Yang, 2002). This trend suggests that the Chinese government has backed non-SOEs with high performance in particular areas, meaning that non-SOEs may have enjoyed a degree of internationalisation comparable to that maintained for SOEs. Therefore, whether a Chinese listed firm is an SOE or not cannot determine its CSR quality.

Finally, the Thesis provides evidence showing that SOEs in heavy industries have higher CSR quality than non-SOEs in heavy industries (i.e., H3 is supported). According to Dai and Cheng (2015), heavy industries are under the control of the Chinese government, which always supports SOEs. Hence, the allocation of public subsidies is biased towards SOEs, which tend to maintain higher levels of R&D investment than non-SOEs. This pattern is consistent with what is found in this Thesis, and supports the idea that SOEs tend to have a comparative advantage in CSR quality relative to non-SOEs in heavy industries.

5.3. Limitations

It should be acknowledged that this Thesis does have some potential limitations. First, because of the late start of CSR reporting, the sample firms were selected from the top 100 CSR index for SOEs and non-SOEs firms, instead of from the population of all listed

firms on the Shanghai, Shenzhen, and Hong Kong Stock Exchanges. In fact, the late start of CSR reporting suggests that even now not many Chinese listed firms are preparing CSR reports, such that there are not enough CSR data, apart from the top 100 CSR index of SOE and non-SOE firms, for a fuller analysis. Although CSR is an important research topic around the world, not many Chinese firms pay attention to the corporate CSR indexes. For example, only the 'BLUE BOOK OF RESEARCH REPORTS ON CORPORATE SOCIAL RESPONSIBILITY IN CHINA (2018) provides the specific CSR index of the top 100 listed firms for both SOEs and non-SOEs. The Thesis sample may thus be biased towards Chinese firms with good CSR performance.

Second, as already mentioned, China has a unique institutional environment, given its culture and the economic background of the country. Compared to the governments of western countries, the Chinese government plays a more important role in developing and introducing corporate governance principles and CSR guidelines to the capital market. As a result, the findings of this Thesis may not be transferable to western countries.

5.4. Future research

Future research concerning the relationship between corporate governance and CSR quality should explore several further dimensions. First, a larger sample of firms can be selected from the population of Chinese listed firms on the Shanghai, Shenzhen, and Hong Kong Stock Exchanges, as new and more detailed CSR data become available. Second, once those additional data do become available, future research can also consider the

relationship among other corporate variables, such as foreign and institutional stock ownership. Finally, it will be fruitful for future research to investigate the relationship between corporate governance and CSR quality in other developing countries around the world.

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APPENDIX A LIST OF FIGURES

Figure 1

CSR Reports Before 2010



Adapted from

https://www.bsr.org/reports/bsr_future_for%20_csr_reporting_in_china_cn.pdf/.

Figure 2

CSR Reports After 2010



Adapted from

https://www.bsr.org/reports/bsr_future_for%20_csr_reporting_in_china_cn.pdf/.

Figure 3

Securities Composite Index



Adapted from <u>https://www.acga-asia.org/.</u>

APPENDIX B LIST OF TABLES

Table 1

Descriptive Statistics

Variables	Observations	Mean	Median	Std. Dev.	Minimum	Maximum
CSR	826	45.588	49.800	26.439	0.000	96.800
IND_DIR	821	0.385	0.360	0.083	0.000	0.800
BRDSIZE	821	10.430	9.000	3.116	4.000	23.000
BIG4	827	0.588	1.000	0.493	0.000	1.000
FSIZE	827	6.935	6.900	2.215	0.270	12.530
LEV	827	0.655	0.660	0.178	0.160	0.980
ROA	827	0.234	0.120	1.503	-1.540	30.440
MB	820	2.300	1.700	2.122	0.030	23.960
SOE	827	0.626	1.000s	0.484	0.000	1.000

Note. Variable definitions: CSR = the CSR development indexes for the top 100 SOEs and non-SOEs; IND_DIR = the proportion of independent directors on the board.; BRDSIZE = the number of directors on the board of directors; BIG4 = dummy variable, which has a value of 1 for a firm that employs a Big 4 auditor, and 0 otherwise; FSIZE = the natural logarithm of total assets. LEV = long-term debt divided by total assets; ROA = pre-tax income divided by total assets; MB = the market-to-book ratio; and SOE = a dummy variable, which has a value of 1 if the firm is an SOE, and 0 otherwise.

Pearson Correlation Results

	CSR	IND_DIR	BRDSIZE	BIG4	FSIZE	LEV	ROA	MB	SOE
CSR	1								
IND_DIR	0.046	1							
BRDSIZE	0.160***	-0.306***	1						
BIG4	0.319***	0.231***	0.154***	1					
FSIZE	0.401***	0.063*	0.485***	0.478***	1				
LEV	0.072**	-0.025	0.383***	0.280***	0.548***	1			
ROA	0.100***	-0.182***	0.001	-0.094***	0.041	0.067*	1		
MB	-0.233***	0.057	-0.151***	-0.168***	-0.250***	-0.126***	-0.017	1	
SOE	0.362***	0.080**	-0.007	0.170***	0.278***	0.055	0.060*	-0.274***	1

Note. For variable definitions, see Table 1.

p < 0.01 = ***; p < 0.05 = **; p < 0.10 = *. One-tailed test for direction hypotheses and two-tailed otherwise.

Variables	Predicted sign	Coefficient	t-value
IND_DIR	+	-10.260	-0.96
BRDSIZE	+	1.086***	3.22
BIG4	+	11.011***	5.90
FSIZE	?	3.075***	5.28
LEV	?	-18.685***	-2.95
ROA	?	2.148***	3.98
MB	?	-0.850**	-2.17
SOE	?	12.418***	5.41
Constant	?	-1.024	-0.04
Industry	?	Yes	Yes
Year	?	Yes	Yes
Adj. R ² (%)	37.53%		
Ν	813		

OLS Regression Results for H1

Note. For variable definitions, see Table 1.

p < 0.01 = ***; p < 0.05 = **; p < 0.10 = *. One-tailed test for direction hypotheses and two-tailed otherwise.

OLS Regression Results for H2

Variables	Predicted sign	Coefficient	t-value
IND_DIR	+	8.431	0.43
BRDSIZE	+	2.147***	4.74
BIG4	+	13.184***	4.37
SOE	?	44.091***	3.81
SOE*IND_DIR	?	-25.855	-1.09
SOE*BRDSIZE	?	-1.964***	-3.65
SOE*BIG4	?	-4.833	-1.36
FSIZE	?	1.790***	2.47
LEV	?	-41.002***	-4.63
ROA	?	1.692***	2.79
MB	?	-1.352**	-0.225
Constant	?	-12.650	-0.49
Industry	?	Yes	Yes
Year	?	Yes	Yes
Adj. R ² (%)	38.79%		
Ν	813		

Note. Variable definitions: SOE*IND_DIR = an interaction term computed by multiplying SOE by IND_DIR; SOE*BRDSIZE = an interaction term computed by multiplying SOE by BRDSIZE; SOE*BIG4 = an interaction term computed by multiplying SOE by BIG4. See Table 1 for other variable definitions.

p < 0.01 = ***; p < 0.05 = **; p < 0.10 = *. One-tailed test for direction hypotheses and two-tailed otherwise.

OLS Regression Results for H3

		(1)	(2)	(3)
Variables	Dradiated sign	SOE = 1	SOE = 0	t tast of difference
variables	Predicted sign	Coefficient/(t-value)	Coefficient/(t-value)	t-test of difference
		-17.337	27.796	NI / A
ווע_טוג	+	(-0.92)	(0.74)	N/A
		0.053	-0.155	NI/A
BRDSIZE	Ŧ	(0.05)	(-0.12)	N/A
PIC4		14.151***	8.457**	Q /JJJ***
DIG4	Ŧ	(4.30)	(2.10)	0.422
ECIZE	2	3.061***	-4.750***	60 500***
FSIZE	!	(2.73)	(-3.10)	06.525
	2	-37.062***	25.136**	62 600***
	:	(-3.47)	(2.09)	-05.000
POA	2	0.660	35.433***	0 6777***
NOA	·	(0.09)	(3.16)	-0.0224
MB	2	-2.956*	-0.450	-8 6033***
	·	(-1.92)	(0.88)	-0.0055
Constant	2	70.799**	5.915	NI/A
Constant	:	(2.31)	(0.29)	N/A
Industry	?	Yes	Yes	
Year	?	Yes	Yes	
Adj. R ² (%)		23.27%	36.15%	
Ν		212	93	

Note. For variable definitions, see Table 1.

P < 0.01 = ***; P < 0.05 = **; P < 0.10 = *. One-tailed test for direction hypotheses and two-tailed otherwise.

TABLE 6

PSM Results for Endogeneity Check

Panel A: Logistic regression results

Variables	Predicted sign	Coefficient	t-value
FSIZE	?	0.356	5.83***
LEV	?	-1.057	-1.48
ROA	?	0.675	1.28
MB	?	-0.157	-3.03***
SOE	?	0.607	2.92***
Constant	?	12.174	0.02
Industry	?	Yes	Yes
Year	?	Yes	Yes
Pseudo R ² (%)	21.45%		
Ν	820		

Panel B: Covariate balance results

Variables	Treated	Control	Difference	t-statistic
FSIZE	5.367	5.390	-0.023	-0.02
LEV	0.624	0.684	-0.060	-0.74
ROA	0.149	0.097	0.052	1.05
MB	3.523	4.041	-0.518	-0.40
SOE	0.429	0.143	0.286	0.69

Panel C: OLS regression results

Variables	Predicted sign	Coefficient	t-value
IND_DIR	+	-10.260	-0.96
BRDSIZE	+	1.086	3.22***
BIG4	+	11.011	5.90***
FSIZE	?	3.075	5.28***
LEV	?	-18.685	-2.95***
ROA	?	2.148	3.98***
MB	?	-0.851	-2.17**
SOE	?	10.418	5.41***
Constant	?	-1.024	-0.04
Industry	?	Yes	Yes
Year	?	Yes	Yes
Adi R ² (%)	37 53%		
N	813		

Note. For variable definitions, see Table 1.

P < 0.01 = ***; *P* < 0.05 = **; *P* < 0.10 = *. One-tailed test for direction hypotheses and two-tailed otherwise.