Board Leadership Structure and the Financial Performance of Listed Chinese Firms in Singapore

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Declaration

I hereby certify that the work embodied in this Dissertation Project is the result of original research and has not been submitted for a higher degree to any other University or Institution.
Acknowledgments

My doctoral journey was not straight forward but indeed challenging and fascinating. It actually took years of courage to explore new knowledge as well as sustained hard work to balance my family and work lives. I thank God for leading my way through this extraordinary journey. I am also greatly thankful to my beloved wife for her enduring love, patience and support during all these years when I was focused on my research rather than spending precious time with her and our two young children.

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## Abbreviations

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<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>ADBI</td>
<td>Asian Development Bank Institute</td>
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<tr>
<td>AFC</td>
<td>Asian Financial Crisis</td>
</tr>
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<td>AGMs</td>
<td>Annual General Meetings</td>
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<td>BOD</td>
<td>Board of directors</td>
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<tr>
<td>CA</td>
<td>Companies Act</td>
</tr>
<tr>
<td>CCDG</td>
<td>Council on Corporate Disclosure and Governance</td>
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<tr>
<td>CCG 2001</td>
<td>Code of Corporate Governance 2001</td>
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<tr>
<td>CCG 2005</td>
<td>Code of Corporate Governance 2005</td>
</tr>
<tr>
<td>CCG 2012</td>
<td>Code of Corporate Governance 2012</td>
</tr>
<tr>
<td>CEO</td>
<td>Chief executive officer</td>
</tr>
<tr>
<td>CFO</td>
<td>Chief financial officer</td>
</tr>
<tr>
<td>CG</td>
<td>Corporate governance</td>
</tr>
<tr>
<td>CGC</td>
<td>Corporate Governance Committee</td>
</tr>
<tr>
<td>China</td>
<td>People’s Republic of China</td>
</tr>
<tr>
<td>CNY</td>
<td>Chinese currency Yuan – commonly refers to the <em>Renminbi</em></td>
</tr>
<tr>
<td>COB</td>
<td>Chairman of the board of directors</td>
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<tr>
<td>CSRC</td>
<td>Chinese Securities Regulatory Commission</td>
</tr>
<tr>
<td>EBITDA</td>
<td>Earnings before interest, tax and depreciation</td>
</tr>
<tr>
<td>GFC</td>
<td>Global Financial Crisis</td>
</tr>
<tr>
<td>HKEx</td>
<td>Hong Kong Exchange</td>
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<tr>
<td>HOMA</td>
<td>Hedges and Olkin-type meta-analysis</td>
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<tr>
<td>IPOs</td>
<td>Initial public offerings</td>
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<tr>
<td>IRAS</td>
<td>Inland Revenue Authority of Singapore</td>
</tr>
<tr>
<td>KLSE</td>
<td>Kuala Lumpur Stock Exchange</td>
</tr>
<tr>
<td>MAS</td>
<td>Monetary Authority of Singapore</td>
</tr>
<tr>
<td>MoF</td>
<td>Ministry of Finance</td>
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<td>Abbreviation</td>
<td>Description</td>
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<tr>
<td>NASDAQ</td>
<td>National Association of Securities Dealers Automated Quotations</td>
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<tr>
<td>NYSE</td>
<td>New York Stock Exchange</td>
</tr>
<tr>
<td>OECD</td>
<td>Organisation for Economic Co-operation and Development</td>
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<tr>
<td>POEs</td>
<td>Private-owned enterprises</td>
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<tr>
<td>RI</td>
<td>Total return index</td>
</tr>
<tr>
<td>ROA</td>
<td>Return on asset</td>
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<tr>
<td>ROCE</td>
<td>Return on capital employed</td>
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<tr>
<td>ROE</td>
<td>Return on equity</td>
</tr>
<tr>
<td>ROS</td>
<td>Return on sales</td>
</tr>
<tr>
<td>$R_t$</td>
<td>Annual rate of return on stock</td>
</tr>
<tr>
<td>S-chips</td>
<td>China-based companies listed on the Singapore Exchange</td>
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<tr>
<td>SFA</td>
<td>Securities and Futures Act</td>
</tr>
<tr>
<td>SGD</td>
<td>Singaporean dollars</td>
</tr>
<tr>
<td>SGX</td>
<td>Singapore Exchange</td>
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<tr>
<td>SOEs</td>
<td>State-owned enterprises</td>
</tr>
<tr>
<td>SOX</td>
<td>Sarbanes-Oxley Act</td>
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<tr>
<td>U.K.</td>
<td>United Kingdom</td>
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<tr>
<td>U.S.</td>
<td>United States</td>
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<tr>
<td>WTO</td>
<td>World Trade Organization</td>
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Abstract

The financial crises and corporate scandals in the past decades have attracted public attention and increased pressure on the financial regulatory authorities to develop and review their corporate governance (CG) codes for guiding the “best practice” of governance in public firms. Unlike the statutory Sarbanes-Oxley Act 2002 (SOX) in the United States, the regulatory authorities in developed Asian markets, such as Hong Kong and Singapore, choose to adopt a more flexible “comply or explain” approach in guiding their listed company for good CG practices. Among those recommended “best practice” in the CG codes, there is a common practice which relates to the board leadership structure stipulates that the chief executive officer (CEO) and the chairman of the board of directors (COB) positions should be separately held by two individuals (CEO non-duality). However, there is still a lack of conclusive suggestions in the studies on which board leadership structure (CEO duality or non-duality) is best in CG to universally predict positive firm performance improvement.

With the increasing presence of mainland Chinese companies listed and traded on international stock exchanges, the impact from the differences in CG systems between the Chinese two-tier CG framework and the Anglo-American model regarding a board’s leading role is also becoming more significant. In addition, after the 2008 Global Financial Crisis (GFC), the energetic momentum of the Chinese economy is still the focus of the world while there are economic downturns in most western markets. The study of CG in mainland Chinese firms as individual members of the Chinese economy provides a micro view on the macro evolution and sustainability of the economic momentum of China which is affecting the world economy. However, overseas-listed Chinese firms are one of the appropriate choices for the examination of Chinese CG through empirical research. While prior studies have mainly focused on overseas Chinese companies listed in Hong Kong and New York, which are dominated by large state-owned enterprises
(SOEs), this dissertation project seeks to examine the relationship between board leadership structure and the financial performance of a group of listed Chinese firms in Singapore, which comprises mixed smaller sized SOEs and private-owned enterprises (POEs), from the period of time of the 2008 GFC onwards in order to fill a research gap.

This research is the first study to examine the impact of board leadership structure on the financial performance of listed Chinese firms in Singapore, taking into account the moderating effect of company incorporation. A sample of 105 Chinese firms with a total of 216 firm-year observations between 2009 and 2011 is used for empirical analysis. This period is characterized by highly publicized corporate scandals and accounting irregularities with China-based firms publicly listed in Singapore. The empirical results suggest that the board leadership structure of CEO duality positively influences the financial performance of listed Chinese firms in Singapore, and that this relationship is also positively moderated by their company incorporation in Singapore. The board leadership, under the unity of command with CEO duality, increases the chance of managerial opportunism for high contribution to a firm’s competitiveness in the market that has led to superior performance improvement of Chinese firms in the post-GFC period. Furthermore, the regulatory environment of Singapore also further enhances the effect of CEO duality on the financial performance of Chinese firms listed in Singapore.
Chapter 1 Introduction

1.1 Introduction

The occurrence of major financial crises in the past two decades, together with the highly publicized corporate scandals of Enron and WorldCom in the United States (U.S.) and the disclosure of accounting irregularities in overseas-listed mainland Chinese companies, have attracted public attention and escalated pressure on regulatory authorities to develop and review their corporate governance (CG) codes for guiding the “best practice” of governance in public firms. Although the U.S. introduced a rather rigid set of rules in its statutory Sarbanes-Oxley Act 2002 (SOX) in response to the impact from those U.S. corporate scandals, the regulatory authorities in Asia choose to adopt a more flexible “comply or explain” approach in guiding their listed companies towards sound CG practices, which are largely inspired by the Cadbury Report from the United Kingdom (U.K.) and the U.K. CG Code. Even some of the wording used in more mature Asian CG codes, such as the Corporate Governance Code and Corporate Governance Report (HKEx, 2012) in Hong Kong and the Code of Corporate Governance (CCG, 2001, 2005, 2012) in Singapore, seem to be derived from the U.K. equivalents (Cadbury, 2002). Among those recommended “best practice” of governance in the CG codes, there is a well-promoted practice related to board leadership, namely that the chief executive officer (CEO) and the chairman of the board of directors (COB) should in principle be two separate individuals. However, CEO duality, which can be explained as one person holding both the CEO and the COB positions (Boyd, 1995; Finkelstein & D'Aveni, 1994; Rechner & Dalton, 1991), or in particular the practice of a single individual serving as both the CEO and COB at the same time (Krause, Semadeni, & Cannella Jr., 2014), has been widely discussed in board leadership research for the past decades. According to agency theory, individuals are self-interested optimizers creating agency problems (Elsayed, 2007) and increasing
agency costs to corporations (Fama & Jensen, 1983a), which supports the separation of the CEO and COB with higher independence for the board in monitoring a firm’s operation by its executives in order to minimize agency risk (Eisenhardt, 1989; Fama, 1980; Fama & Jensen, 1983b; Jensen & Meckling, 1976). In contrast, according to the assumption of stewardship theory, individuals are motivated by intrinsic rewards, organizational identification and opportunities for growth and satisfaction from the use of power to act in the interests of the shareholders (Davis, Schoorman, & Donaldson, 1997), which supports CEO duality with minimal independent expressions within the board for unity of leadership. However, in a financial crisis situation, CEO duality is often associated with firm performance improvement, and the effectiveness of CG mechanisms may be contingent upon corporate complexity and environmental circumstances (Van Essen, Engelen, & Carney, 2013). Hence, it is of special interest to this study to investigate the impact of board leadership structure, under the conventional assumption of “best practice” in CG, on corporate financial performance.

This chapter first describes the research background with the highlights of the literature review given to search for a research gap to emphasize the study objective. The primary research question and sub-questions together with the corresponding research hypotheses are then presented. Next, the research methodology is introduced with the significance and contribution of this study, followed by a description of the dissertation outline which concludes this chapter. The rest of this chapter is organized as follows. Section 1.2 presents the background and objectives of this study. Section 1.3 develops the research questions and hypotheses. Section 1.4 proposes the research methodology. Section 1.5 states the significance and contribution of this study. Section 1.6 provides an outline of this dissertation.
1.2 Background and Objectives

This section introduces the theoretical background of corporate leadership, with key findings from the U.S. and Asia, and identifies a research gap in the literature. While most prior studies in board leadership are based on evidence from U.S. companies (Kiel & Nicholson, 2003), the review of literature in the Asian context plays a significant role in the immediate search for a research gap in order to confine the objective of this study for the subsequent development of the research questions and the associated hypotheses.

1.2.1 Theoretical Background

There are five major theories related to corporate leadership which form the theoretical basis of this study, namely: institutional theory, contingency theory, resource-dependence theory, agency theory and stewardship theory. First, under the assumption of the institutional theory, firms are influenced by normative pressures from external legal requirements and those arising from within the firm itself to comply with the requirements (Zucker, 1987). However, CG code compliance is not a definite measure of better CG practice, which may lead to higher firm value or better firm performance (DiMaggio & Powell, 1983). Second, the effectiveness of leadership is a joint function of the characteristics and style of the leader in meeting the contextual situations (Fiedler, 1967), and corporate leadership (CEO duality or non-duality) is contingent upon organizational contextual factors (Boyd, 1995). Third, the board of directors (BOD) provides the critical resources for firms to gain their competitive advantage (Pfeffer, 1972). The board leadership structure and the composition of BOD increases the leverage of environmental linkages to firms for their critical resources and for reducing the impact from the environmental uncertainty (Pfeffer & Salancik, 1978). Lastly, there has been an ongoing debate between the agency theorists and the stewardship theorists. It is suggested by the agency theorists that a strong and effective control mechanism applied to the CEO (agent) (Jensen & Meckling, 1976) is essential for the shareholders (principals) through the BOD which supports the separation of the CEO and COB in promoting board
independence (Dalton, Daily, Johnson, & Ellstrand, 1999) to act in the shareholders’ interests in governing the operation of the firm (asset). In contrast, the stewardship theorists’ view assuming individuals are motivated by intrinsic factors (Davis et al., 1997) to align their interests with the corporation (Donaldson & Davis, 1991), such that minimal independent members on BOD helps to promote the unity of the board with CEO duality and a majority of inside directors, in order to enhance the single leading role of CEO/COB for a superior corporate performance (Muth & Donaldson, 1998). Nevertheless, all these CG theories, in relation to corporate leadership, interconnect with each other in the governance of firms to form the theoretical grounds for further discussion in this study. Figure 1.1 illustrates the theoretical background of corporate leadership as introduced in this sub-section.

**Figure 1.1: Theoretical Background of Corporate Leadership**
1.2.2 Board Leadership Studies in the United States and Asia

The impact of board leadership on firm performance has long been examined in the U.S. for the past decades. Most of the leading U.S. studies in the agency-stewardship debate were published in the 1990s. The first argument regarding the agency theory and the stewardship theory initiates from the longitudinal analysis of CEO duality in relation to an accounting-based measure instead of stockholder returns which was undertaken by Rechner and Dalton (1991) to support the separation of the CEO and COB. This was immediately criticized by Donaldson and Davis (1991) in their introduction of stewardship theory. Since then, there have been various studies in U.S. firms that examine the relationship between CEO duality and firm performance through different lenses, such as: its potential link to firm bankruptcy (Daily & Dalton, 1994a, 1994b), with the contingency approach (Boyd, 1995) and from a costs and benefits prospective (Brickley, Coles, & Jarrell, 1997). However, this CEO duality-firm performance relationship in U.S. firms is nearly concluded by a meta-analytic review (Dalton, Daily, Ellstrand, & Johnson, 1998), in which the differences between empirical studies using accounting-based and market-based performance measures are found to minimally affect the true correlations between CEO duality and firm performance, such that either the agency theory or the stewardship theory alone could predict a firm’s performance. Afterward, the more recent studies in U.S. firms shift their focus onto board leadership debates beyond the arguments between agency theory and stewardship theory to the issues of firm diversification from risk-taking propensity (Kim, 2013; Kim, Al-Shammari, Kim, & Lee, 2008; Kim & Buchanan, 2008), life-cycle theory (Harjoto & Jo, 2009), the former CEO as board chair (Quigley & Hambrick, 2012), the two-tier governance structure with the former CEO as board chair (Abels & Martelli, 2013), the process of CEO-board chair separation (Krause & Semadeni, 2013) and women in the dual role of CEO and chair (Muller-Kahle & Schiehll, 2013). Nevertheless, the relationship between board leadership and firm performance is mostly inconclusive in empirical studies using evidence from the United States (Krause et al., 2014).
Meanwhile, the empirical studies from different Asian countries provide mixed support for both CEO duality and non-duality board leadership structures. In mainland China, most recent studies show support for the stewardship theory by concluding that the board leadership of CEO duality in Chinese firms is positively related to firm performance during the transitional period (Peng, Zhang, & Li, 2007) and after the implementation of the Chinese Code of Corporate Governance (Yu, 2008). This CEO duality leadership also positively moderates the relationship between organization slack and firm performance in Chinese private-owned enterprises (Peng, Li, Xie, & Su, 2010). In Hong Kong, the empirical findings support the CEO duality leadership structure in non-family firms and, in contrast, CEO non-duality in family firms (Lam & Lee, 2008). In Singapore, the empirical findings are mixed, asserting that CEO duality was positively related to firm performance during the 1997 Asian Financial Crisis (Tan, Chng, & Tan, 2001), but otherwise had no significant effect on firm performance (Pei, 2012), and that board leadership is not related to board process (Wan & Ong, 2005). Nevertheless, the evidence from Malaysia (Abdullah, 2004; Ponnu, 2008) and from a sample of stock-listed firms in Indonesia, Malaysia, South Korea and Thailand (Ramdani & Van Witteloostuijn, 2010) is mainly inconclusive on this CEO duality-firm performance relationship. However, the study by Ramdani and Van Witteloostuijn (2010) suggests that CEO duality and firm performance are, indeed, positively related to each other in average-performing firms.

1.2.3 Corporate Governance and Listed Chinese Firms in Singapore

Singapore is described as having the best CG practices in Asia by Credit Lyonnais Securities, and firms in the Singaporean financial sector are consistently operated with the international best CG practices (Chuanrommanee & Swierczek, 2007). Since the 1997 Asian Financial Crisis (AFC), the Singaporean government recognized the need to strengthen its financial sector by implementing a number of fiscal and monetary initiatives to improve its competitiveness, and by making significant proposals to improve CG in Singapore (Mak & Phan, 1999). The first Singapore Code of Corporate Governance (CCG) was introduced to public firms in 2001 (CCG, 2001), with subsequent
revisions published in 2005 (CCG, 2005) and 2012 (CCG, 2012). Along with the CG codes in Hong Kong (HKEx, 2012) and the U.K. (FRC, 2012) which are largely inspired by and based on the Cadbury Report, CEO duality board leadership is not encouraged and firms with this board leadership structure are required to disclose it in their annual reports using the “comply or explain” approach. This code provision forms a normative pressure on public firms (Zucker, 1987) to decide their board leadership structure, in addition to the consideration of their firm complexity.

Moreover, the number of mainland Chinese firms listed on the Singapore Exchange (SGX) has continued to increase since the Chinese authorities relaxed their regulatory restrictions to allow small and medium-sized Chinese firms to list on major stock exchanges, such as Hong Kong, New York and Singapore, in order to raise their share capital. There are generally two main types of China-based firms listed on the SGX (D. Lu, 2008): (i) Singapore subsidiaries of parent companies incorporated and located in mainland China; and (ii) Singapore subsidiaries of parent companies incorporated in a third jurisdiction, such as Bermuda, British Virgin Islands, Cayman Islands and Hong Kong, with the majority of their shareholdings being from mainland China. Foreign listings on the SGX are defined as companies whose principal place of business is outside of Singapore (SGX, 2010). Chinese firms listed on the SGX are companies having their business operation or domiciled in mainland China, and over 40% of those listed Chinese firms are incorporated outside of Singapore. These Chinese companies are commonly known as “S-chips” in Singapore, whereas their shares are known as “S-shares”.

S-chips, like other listed mainland Chinese firms in Hong Kong and New York, have been highly publicized by their corporate scandals and accounting irregularities after the 2008 Global Financial Crisis (GFC). The market performance of S-chips dropped sharply in 2008 (FTSE, 2012), but quickly rebounded in the following years due to the attractiveness of their strong business networking in China (Ewing, Caruana, & Wong, 2000) and the “China” effect from their company names (Bae & Wang, 2012), which provides Singaporean investors the linkage platform with their business ties in China.
1.2.4 Research Gap and Objective of Study

After the 2008 GFC, listed mainland Chinese firms adopted CG reforms in order to gain back investor confidence. However, board leadership structure is one of the controversial issues in those CG reforms of listed Chinese firms. Both agency theory (favoring CEO non-duality) and stewardship theory (favoring CEO duality) may be valid under certain conditions (Elsayed, 2010). In a financial crisis situation, CEO duality is often expected to be associated with firm performance improvement, and the effectiveness of CG mechanisms may be contingent upon corporate complexity and environmental circumstances (Van Essen et al., 2013). Whether the board leadership structure impacts on firm performance or not, which may contribute to the quick market performance rebound of those listed Chinese firms in the post-GFC situation in Singapore, is of special interest to this study.

From the immediate literature review on empirical studies in Asia, there is a close match of literature with the empirical study in overseas-listed Chinese firms with evidence from the Hong Kong, Singapore, U.S. and U.K. stock exchanges between 1993 and 2006 (J. W. Lu, Goh, & Liang, 2011). However, the study by Lu et al. (2011) is based on firm data with a mix of various sized Chinese state-owned enterprises (SOEs) and private-owned enterprises (POEs) without addressing the impacts from the 2008 GFC and the subsequent corporate scandals. This may not be applicable to those listed Chinese firms in Singapore, comprising mainly smaller sized SOEs (with annual earnings less than 100 million CNY) and POEs, in the post-GFC environment. Hence, there is a research gap in the current knowledge of the relationship between board leadership structure and the performance of overseas-listed Chinese firms in Singapore after the 2008 GFC. The objective of this study is to fill this research gap by examining the CEO duality-firm performance relationship of listed Chinese firms in Singapore in order to make a contribution to the literature regarding board leadership.
1.3 Research Questions and Hypotheses

This section introduces the general research question and the four sub-questions, as derived from the research gap, and describes the development of the four research hypotheses correspond to these four research sub-questions. The research gap from the relationship between board leadership structure and the performance of listed Chinese firms in Singapore is guided by the primary research question as follows:

*What are the implications of board leadership structure on the financial performance of publicly listed Chinese firms in Singapore?*

1.3.1 First Research Sub-question and Hypothesis H1

In relation to board leadership structure, there are controversial arguments regarding board independence and board size. First, firm performance can be better promoted by appointing more independent directors on the board to more effectively perform its monitoring task (Eisenhardt, 1989; Fama, 1980; Fama & Jensen, 1983b; Jensen & Meckling, 1976). The board leadership of CEO duality has a tendency to dominate board decisions with less effective monitoring opportunities (Daily & Dalton, 1993; Jensen, 1993) by reducing board independence (Finkelstein & D'Aveni, 1994; Rhoades, Rechner, & Sundaramurthy, 2001). Thus, the first research sub-question is elaborated as:

*Does CEO duality affect the proportion of independent directors on the board of directors in publicly listed Chinese firms in Singapore?*

The corresponding hypothesis H1 is stated as:

H1: CEO duality is *negatively* associated with the proportion of independent directors within the boards of directors of Chinese firms in Singapore.
1.3.2 Second Research Sub-question and Hypothesis H2

From the agency theory’s perspective, board size has an inverse relationship to firm performance (Jensen, 1993; Yermack, 1996), as well as on those BODs with a CEO duality leadership structure (Elsayed, 2011). In contrast, the resource-dependent theorists suggest that resources are crucial to a firm’s competitive advantage and that a larger board helps to provide comprehensive advice to the CEO when dealing with environmental complexity (Klein, 1998; Pfeffer, 1972; Pfeffer & Salancik, 1978). Hence, there is a contradiction between the agency theory and resource-dependence theory in trying to determine the optimal board size that corresponds to the complexity of listed Chinese firms in Singapore. Nevertheless, the board size of mainland Chinese firms is primarily determined by firm complexity (C. H. Chen & Al-Najjar, 2012). Thus, the second research sub-question focuses on the relationship between board leadership structure and board size as:

*Does CEO duality affect the size of the board of directors in publicly listed Chinese firms in Singapore?*

The corresponding hypothesis H2 is derived in line with the prior study with evidence from Hong Kong and Singapore (Heaney, 2009) that the board size is relatively smaller with CEO duality.

H2: CEO duality is *negatively* associated with the size of the board of directors of Chinese firms in Singapore.

1.3.3 Third Research Sub-question and Hypotheses H3a and H3b

The relationship between board leadership structure and firm performance is elaborated by the third research sub-question. In addition, the two different views from the agency
theory and the stewardship theory are derived into two separate hypotheses to reflect the CEO duality-firm performance relationship through different lenses.

**Does CEO duality affect the firm performance of publicly listed Chinese firms in Singapore?**

From the agency theory’s view, individuals are self-interested optimizers creating agency problems (Elsayed, 2007) and increasing agency costs to corporations (Fama & Jensen, 1983a), which supports the separation of the CEO and COB with higher independence of the board in monitoring a firm’s operation by the executives in order to minimize agency risk (Eisenhardt, 1989; Fama, 1980; Fama & Jensen, 1983b; Jensen & Meckling, 1976). Thus, the corresponding hypothesis H3a is derived as:

**H3a:** From the perspective of agency theory, CEO duality is *negatively* associated with the financial performance of Chinese firms in Singapore.

In contrast, under the assumption of stewardship theory, individuals are motivated by intrinsic rewards, organizational identification, opportunities for growth and satisfaction from the use of power to act in the interests of the shareholders (Davis et al., 1997), which supports CEO duality with minimal independent expressions within the board for unity of leadership. Thus, the corresponding hypothesis H3b is derived as:

**H3b:** From the perspective of stewardship theory, CEO duality is *positively* associated with the financial performance of Chinese firms in Singapore.

### 1.3.4 Fourth Research Sub-question and Hypotheses H4

Meanwhile, more than 40% of listed Chinese firms in Singapore are actually incorporated in a third territory besides China and Singapore. Thus, it is of special interest to this study to examine the effect of Singapore incorporation in comparison with the non-
Singapore incorporated Chinese firms on the relationship between CEO duality and firm performance. Hence, the fourth research sub-question is elaborated to investigate the impact of firm incorporation on the CEO duality-firm performance relationship.

*Does firm incorporation affect the relationship between board leadership structure and the firm performance of publicly listed Chinese firms in Singapore?*

Non-Singapore incorporated Chinese firms mostly register their business in a third territory, such as Bermuda, British Virgin Islands and the Cayman Islands, or the so-called tax havens where there are low tax rates and favorable regulatory policies to attract foreign investors (Hines Jr., 2010). The evidence from the state of Delaware, a domestic tax haven in the U.S., shows that the benefits to firms from tax incentive is another reason for deciding a firm’s location of incorporation, which does not support the agency theory that favors managers at the expense of shareholders (Xie, 2013). While there is a lack of comparable studies in Asia, the corresponding hypothesis H4 is derived with reference to the evidence from U.S. firms as:

H4: Firm incorporation has a *positive* moderating effect on the relationship between CEO duality and the financial performance of Chinese firms in Singapore.

Figure 1.2 summarizes the hypothesized relationships between each construct for investigation in this study.
1.4 Research Methodology

Quantitative methodology with the deductive research approach is adopted for this empirical study. Deductive research relies on a developed conceptual framework which is then tested by empirical evidence such that particular instances are deducted from general inferences (Collis & Hussey, 2009). This study seeks to examine the relationship between the board leadership structure of CEO duality and firm performance, and the moderating effects of firm incorporation on this CEO duality-firm performance relationship that are confined to the hypothesized framework, as shown in Figure 1.2.

According to the deductive research approach, board and financial data are collected from secondary sources as observations for empirical analysis. Since all data are collected from public domains, human ethics approval was not required for this research. Each
hypothesized relationship is tested by means of statistical analysis with the Statistical Package for the Social Science (SPSS). More specifically, t-tests and multiple regressions are employed for this study with collection of secondary data from individual corporate annual reports, the SGX website and publicly accessible financial databases.

Furthermore, it is noted that other firm variables could also affect a firm’s financial performance, as testing without the consideration of other possible influential firm variables may lead to ambiguous results (Elsayed, 2007). Thus, in addition to the key variables, as hypothesized from the four research sub-questions, this study also counterbalances these possible influences by using other firm characteristics as the control variables in the empirical framework, such as the presence of board committees, firm history, firm leverage, firm liquidity and firm size.

This study attempts to examine the performance of Chinese firms listed on the SGX Mainboard for the three consecutive years, between 2009 and 2011, after the 2008 GFC. As of December 2009, there were a total of 156 Chinese firms listed on the SGX, of which 13 were listed on the SGX Catalist, 26 were delisted after 2009 and 12 of them were not listed throughout 2009 – 2011. Hence, there are 105 Chinese firms (156 – 13 – 26 – 12) in the research sample with a total of 315 firm-year observations (105 firms x 3 years) for investigation. The degree of freedom for conducting a regression analysis is sufficient from the given sample (Krejcie & Morgan, 1970).

1.5 Significance and Contribution

After the 2008 GFC, the energetic momentum of the Chinese economy was still the focus of the world, while there were economic downturns in most western markets. The study of CG in mainland Chinese firms as individual members of the Chinese economy provides a micro view on the macro evolution and sustainability of the economic momentum of China which affects the world economy. Since China joined the World
Trade Organization (WTO) in 2001, the Chinese regulatory authorities adopted the Organisation for Economic Co-operation and Development (OECD) Principles of Corporate Governance and subsequently developed its Code of Corporate Governance of Listed Companies (CSRC, 2002) by the Chinese Securities Regulatory Commission (CSRC). Unlike the CG system in the U.S., Hong Kong and Singapore which adopts the Anglo-American model, the Chinese CG system is based on the adoption of a two-tier (or dual) CG system, which originated from the German civil law system. The difference between the Chinese CG system and Anglo-American model contributes to the research significance for understanding the CG of mainland Chinese firms from studying those overseas-listed Chinese firms in Singapore, which comprises mixed smaller sized Chinese SOEs and POEs with their parent companies and business operations in China.

Furthermore, corporate leadership, in particular the board leadership structure, is a key element in developing the right board dynamics for delivering strategic resources to firms (Johnson, Daily, & Ellstrand, 1996) by reducing the impact from the environmental uncertainty (Pfeffer & Salancik, 1978) after the financial crisis. The CEO duality practice is described as a “double-edged sword” (Finkelstein & D'Aveni, 1994) while there is a tradeoff between unity of command and board independence which highly affects the dynamics inside the boardroom. On the one hand, prior studies on board leadership are largely based on the research in U.S. firms (Kiel & Nicholson, 2003) with an inconclusive universal relationship between CEO duality and firm performance (Dalton et al., 1998; Krause et al., 2014). On the other hand, the evidence from listed firms in mainland China mostly supports the stewardship theory which suggests that CEO duality board leadership is positively related to firm performance (Peng et al., 2007; Van Essen, Van Oosterhout, & Carney, 2012; Yu, 2008). However, there is a lack of empirical studies on overseas-listed Chinese firms in Singapore to test the CEO duality-firm performance relationship after the 2008 GFC. This study contributes to the research gap by examining the impact of CEO duality on firm performance using a multi-theoretical approach (Lam & Lee, 2008) through the five major CG theories related to the discussion on corporate leadership.
1.6 Dissertation Outline

The dissertation includes five chapters as follows.

Chapter 1  Introduction

Chapter 2  Literature Review

Chapter 3  Research Methodology

Chapter 4  Data Analysis

Chapter 5  Conclusion
Chapter 1 – Introduction: This chapter provides the background of this research; an introduction to the research questions, hypotheses and methodology; and a description of the research significance and the contribution of this study.

Chapter 2 – Literature Review: This chapter reviews the parent, intermediate and immediate literature that is relevant to this research for understanding the board leadership studies and the CG of Chinese firms in order to develop the theoretical and practical grounds for further discussion; and a search for the research gap.

Chapter 3 – Research Methodology: This chapter includes the development of the four research sub-questions and the four corresponding hypotheses; the rationale of data sampling; a description of data collection from secondary sources; an introduction of data treatment before testing; and an outline of the statistical methods for testing the hypothesized relationships between the variables.

Chapter 4 – Data Analysis: This chapter presents the empirical results; the descriptive statistics of the research variables and the testing results for each research hypothesis; a description of the statistical significance of the testing variables; and an interpretation of the evidence as suggested by the empirical results.

Chapter 5 – Conclusion: This chapter includes a discussion of the empirical findings correspond to each research hypothesis; their theoretical and practical implications in association with the theoretical and practical grounds as reviewed in Chapter 2; and a discussion of the research limitations and the directions for future research in concluding this dissertation project.
Chapter 2 Literature Review

2.1 Introduction

Although it is recommended by numbers of CG codes that CEO and COB should be separately held by two individuals, there are many corporations worldwide still combine CEO/COB into a single role (CEO duality) as their board leadership structures. Whether this CEO duality leadership structure is related to firm performance or not is still inconclusive with no overall direct and simple relationships (Krause et al., 2014). On the one hand, a single board leader as both the CEO and COB has a tendency to enhance CEO entrenchment in dominating board decisions by limiting board independence from appointing fewer independent directors on the BOD (Finkelstein & D'Aveni, 1994; Rhoades et al., 2001); this lowers the effectiveness of the board monitoring function (Daily & Dalton, 1993; Jensen, 1993). On the other hand, the empirical evidence from Hong Kong and Singapore (Heaney, 2009) observes that the size of those BODs with CEO duality is relatively smaller with a higher proportion of executive directors. Thus, the assertions from different theories on CEO duality and non-duality may only be valid under certain conditions (Elsayed, 2010). This study attempts to examine the impact of board leadership structure on firm performance, and to investigate the effect of firm incorporation on the relationship between CEO duality and the financial performance of listed Chinese firms in the post-GFC economic situation in Singapore.

This chapter focuses on the literature review in developing the theoretical basis of this study and searching for the research gap. There are nine sections in this chapter. Section 2.2 reviews the concepts of CG and leadership in corporations as the background for introducing other major CG theories on corporate leadership in Section 2.3, namely: institution theory, resource-dependence theory, contingency theory, agency theory and
stewardship theory, in order to retrieve the theoretical ground of this research. Section 2.4 reviews the intermediate and immediate literatures addressing CEO duality. This is followed by a discussion on board composition in Section 2.5 and an overview of the CG issues on mainland Chinese firms in Section 2.6. Section 2.7 then reviews the Singapore regulatory and CG systems, and the CG issues of China-based companies in Singapore. This chapter concludes with a literature synthesis in search of the research gap to further develop the research questions and hypotheses for constructing the conceptual framework of this study in Chapter 3.
2.2 Corporate Governance and Leadership

This section reviews the concept of corporate governance based on the U.K. CG Code, which has been widely referenced by jurisdictions with an English-common-law system, such as Hong Kong and Singapore, and provides a description of leadership in organizations on separating the roles of CEO and COB in the board leadership structure.

2.2.1 Corporate Governance

Corporate governance is a conceptual arrangement used to facilitate the board of directors to govern a company. There are different definitions of this conceptual arrangement in the literature and different institutions may define their own definitions of CG. For instance, the U.K. CG Code (FRC, 2012) adopts the first CG report by the Cadbury Committee in 1992 to define the context of its code as that CG is ...the system by which companies are directed and controlled. Boards of directors are responsible for the governance of their companies. The shareholders’ role in governance is to appoint the directors and the auditors and to satisfy themselves that an appropriate governance structure is in place. The responsibilities of the board include setting the company’s strategic aims, providing the leadership to put them into effect, supervising the management of the business and reporting to shareholders on their stewardship. The board’s actions are subject to laws, regulations and the shareholders in general meeting (FRC, 2012, p. 1).

Thus, corporate governance is, in essence, a system that provides guidance on how the chairman and members on a board of directors, as a whole, make decisions to lead a corporation strategically and to supervise the corporate managerial leadership of the CEO for reporting to their shareholders. In other words, it describes how a corporation is governed to ensure a firm (asset) is operated efficiently in order to generate returns by the executives (agents) in the best interests of the shareholders (principals).
2.2.2 Corporate Leadership

In the literature of leadership, there is a general description of leadership as *...a relational activity where an individual(s) guide(s) or direct(s) others (followers) to attain an objective or goal* (Beerl, 2009, p. 64), and it is *...a process whereby an individual influences a group of individuals to achieve a common goal* (Northouse, 2013, p. 5). Thus, a leader can be a person or more than one individual who takes the leading role to direct others (*followers*) in an organizational context.

Meanwhile, there are also various subunits within an organization which have the unique expertise to solve critical problems for gaining the influential power in making strategic decisions. Members from the most powerful subunit are usually selected as the CEO or members of the leading group, such as members of the BOD, that is responsible for strategic planning (Yukl, 2010). However, there is a distinction between the corporate leading roles, such that the CEO is responsible for leading the corporate management and the COB is responsible for leading the BOD on corporate governance (B. Tricker, 2012). Hence, there are separate leading roles between CEOs and COBs in corporations who have sufficient authority and power to influence an organization’s strategic decisions within the board of directors.

Although there is a clear division of responsibility between the running of the board (COB) and the executive responsibility for the business operations (CEO) to avoid one person having unfettered powers of decision within a company, the U.K. CG Code (FRC, 2012), followed by the CG codes in Hong Kong (HKEx, 2012) and Singapore (CCG, 2012), adopts the “comply or explain” approach that the effectiveness of this approach for enhancing a firm’s CG practice is questionable (Arcot, Bruno, & Faure-Grimaud, 2010).
2.3 Theories on Corporate Leadership

This section reviews the five major CG theories on corporate leadership, namely: institutional theory, contingency theory, resource-dependence theory, agency theory and stewardship theory, in building the theoretical grounds for the subsequent development of the research questions and the associated hypotheses of this study.

2.3.1 Institutional Theory

Institutions are systems of established common rules that govern social interactions within firms and other organizations (Hodgson, 2006), in which institutional theory suggests firms are influenced by normative pressures from external legal requirements and those arising from within the firm itself (Zucker, 1987). Meanwhile, institutionalization also corresponds to corporations listed on major stock exchanges being required to comply with their listing rules. In terms of board leadership, there are CG codes suggested by various regulatory authorities for listed companies to “comply or explain” that the corporate and board leaderships of CEO and COB should be separately held by two individuals (CCG, 2012; FRC, 2012; HKEx, 2012), and at least one half of the board members should be independent directors in the case of CEO duality (CCG, 2012). However, in the absence of a formal authority to monitor this “comply or explain” mechanism, the effectiveness of this approach is discounted, while some firms adopt subjective interpretations on the CG codes and frequently use their standard explanations in the case of non-compliance with the codes (Arcot et al., 2010). In addition, although there is a growing imperative on corporations to comply with the suggested “best practice” by the CG codes, compliance with those codes may not necessarily reflect a better corporate governance structure or increase a firm’s competitiveness in the market (DiMaggio & Powell, 1983). Thus, CG code compliance is not a definite measure of better CG practice which may lead to higher firm value or better firm performance, and there is a lack of convincing support that “best practice” in CG are connected to organizational performance improvement (Heracleous, 2001).
2.3.2 Contingency Theory

The relationship between leadership style and group performance is situational. In other words, leadership effectiveness is a joint function of the characteristics and style of the leader in meeting the contextual situations (Fiedler, 1967). The task-oriented leader tends to perform best in the two extremes of very favorable or very unfavorable situations, whereas the relationship-oriented leader tends to perform best in situations that are relatively unstructured, or the leader is not well accepted by his or her followers (Hunt, 1967). Hence, a leader is contingent upon the internal and external situations in leading group performance.

The contingency of effectiveness prospective also applies to some of the findings on board leadership structure from prior studies. For instance, the CEO duality-firm performance relationship is situational (Boyd, 1995) and depends on the dimensions of organizational task environments (Dess & Beard, 1984). According to the empirical findings by Boyd (1995), CEO duality is negatively related to firm performance in munificent environments and, conversely, is positively related to firm performance in a complex situation. In addition, this CEO duality-firm performance relationship is also favorable by the characteristics when CEOs have a high reputation (Boyd, 1995). Furthermore, there are potential costs associated with both the CEO duality and non-duality structures as well as potential benefits (Brickley et al., 1997). According to Brickley et al. (1997), there are no absolute costs or benefits advantages between the two board leadership structures. However, their evidence supports the costs of separating the CEO and COB is greater than the benefits for most large firms, with their argument being balanced the two leadership structures depending on the situational factors, as opposed to the conventional view that CEO non-duality is obviously better than duality. It is suggested that the results from prior studies may have some selectivity bias for specific situations in estimating the impact of CEO duality on firm performance (Brickley et al., 1997; Iyengar & Zampelli, 2009), where there is little change in operating performance from changes in a firm’s duality status (Baliga, Moyer, & Rao, 1996).
Moreover, there is also evidence from prior studies showing that the CEO duality-firm performance relationship is contingent upon organizational contextual factors, such as board independence, environmental situations, family control, industry type and institutional transitions (Brickley et al., 1997; Dalton et al., 1998; Elsayed, 2007; Lam & Lee, 2008; Peng et al., 2007). However, there is only weak evidence, after controlling the other factors, to support the contention that a firm’s CEO duality status affects its long-term performance (Baliga et al., 1996). Otherwise, firms may perhaps choose the dual board leadership structure for other situational reasons than improving firm performance (Iyengar & Zampelli, 2009).

2.3.3 Resource-dependence Theory

The operation of a BOD is often referred as a resource-dependence function. The competition of resources largely depends on the environmental uncertainty external to firms, whereas one of the important board functions is to provide the strategic resources to the firm (Johnson et al., 1996). A firm gains its competitive advantage from the possession of critical resources, and the composition of its board should reflect the environment of the firm (Pfeffer, 1972). Thus, a BOD provides expertise as a critical resource and the environmental linkages to the firm to cope with its environment, such as the directors’ external networking and power, to act as a co-optive mechanism to extract resources and obtain support from external stakeholders (Kiel & Nicholson, 2006). In addition, a BOD also serves as a boundary spanner between the firm and external organizations to enhance its organizational legitimacy in reducing the impacts of environmental uncertainty (Pfeffer & Salancik, 1978). Nevertheless, there is another elaboration from the theory that the uniqueness of resources from the board is crucial to the firm in creating its sustainable competitive advantage in the long run (Conner & Prahalad, 1996).

From the perspective of resource-dependence theory, the separation of the CEO and COB is favorable to the diversity of a firm’s critical resources. The two corporate leaders focus
on different key areas within the board and increase the leverage of the firm to their environmental linkages via two individuals instead of one. Hence, resource-dependence theory provides a contingency ground on the dynamism of environmental volatility and resource scarcity for the examination of CEO duality (Boyd, 1995), which includes the environmental complexity in the traditional agency theory framework of the principle-agent relationship (Jensen & Meckling, 1976).

2.3.4 Agency Theory

Agency theory is an economic based theory relating to a perceived inevitable conflict of interests between business owners and their managers. One of the earlier statements describing this organizational theory is quoted as follows:

_In firms whose managers are not also their owners there may be a divergence of interest between the managers and the owners in certain situations. Such a divergence can cause firms to deviate from profit-maximizing behavior_ (Monsen & Downs, 1965, p. 222).

Firms initiate agency problems from their separation of ownership and control. It is caused by the self-interest of managers who tend to maximize their life-time wealth instead of the firms that they manage (Monsen, Chiu, & Cooley, 1968), in which agency theory provides a unique and realistic perspective on this agency problem (Eisenhardt, 1989). In many instances, the existence of an agency problem reduces firms’ long-term profit via agency costs and residual claims (Fama & Jensen, 1983a) by structuring, monitoring and enforcing bonding contracts among agents with conflicting interests (Jensen & Meckling, 1976). This principal-agent problem occurs in corporations when opportunities arise from the agents to exploit services for their own benefit both within and outside the firm (Fama, 1980). However, one of the conventional solutions to this potential agency problem is the separation of the ownership and control from the decision-making and risk-bearing functions, whereby the decision agents do not hold major shares and the BOD has the ratifying and monitoring roles on important decisions,
such that the BOD chooses as well as dismisses and rewards important decision agents (Fama & Jensen, 1983b). This solution forms the basis of the contemporary governance structure with an independent BOD and an independent COB (Dalton et al., 1999). According to agency theory, the CEO serves as a firm’s agent is a self-interested optimizer, and executives may take decisions to optimize their wealth and/or minimize their risk at the expense of the shareholders (Elsayed, 2007). Evidence shows that firms having an independent director as the board chair consistently perform better than those firms with a CEO duality board leadership (Rechner & Dalton, 1991). This duality leadership with deviation from a firm’s prior performance interactively affects the board’s attention to monitoring (Tuggle, Sirmon, Reutzel, & Bierman, 2010).

Hence, CEO duality opposes the principle of separating control and management that increases the agency risk to firms. Meanwhile, the duality board leadership also reduces the degree of board monitoring upon the executive management, that negatively affects firm performance and significantly increases the likelihood of bankruptcy (Daily & Dalton, 1994a). Under the assumptions of agency theory, a strong and effective control mechanism on the CEO (agent) is essential for the shareholders (principals) through the BOD, and this supports the separation of the CEO and COB in promoting board independence to act in the best interests of the shareholders when governing the operation of the firm (asset).

2.3.5 Stewardship Theory

Contrary to agency theory, stewardship theory is developed from various psychological factors, such as motivation by intrinsic rewards, organizational identification, opportunities for growth and satisfaction from the use of power (Davis et al., 1997). Based on the foundation provided by the early works in organizational psychology, this theory proposes that an individual’s “higher-order relationship needs”, such as acceptance for belonging in an organization and self-esteem for personal growth (Maslow, 1970), help to align an individual’s interests with the organization’s goal (McGregor, 1960).
Furthermore, the agency theory’s self-interest view of individuals is also criticized by the stewardship theorists. Executives perceive that their future gains are not bounded by their current employment, but by an expectation of future employment or pension rights to align their interests with the corporation, even though they do not have any shareholding of the firm (Donaldson & Davis, 1991).

With regard to corporate leadership, it is the classical assumption that the directors’ legal duty is to steward for the shareholders, not themselves, and to monitor executives on behalf of the shareholders. This assumption extends to the belief of stewardship theory that directors (both executive and independent directors) do not maximize their own interests but act in the best interests of the shareholders. On the one hand, it is suggested that the compensation and reputation of the directors and the CEO are significantly related to their own directorate and managerial performance in the corporation (Hirshleifer & Thakor, 1994; Warther, 1998), in which the interests of the board members and the CEO are aligned to the interests of the shareholders for improving firm performance. On the other hand, the separation of the CEO and COB would dilute the effectiveness of leadership from the unity of command, and create potential conflicts between the two leaders within the board (Baliga et al., 1996).

According to the stewardship theorists’ view, the preferred board structure is one which has a minimum number of independent members, as this helps to promote the unity of the board with CEO duality and a majority of inside directors. This enhances the leading role of a single CEO/COB for superior corporate performance (Muth & Donaldson, 1998).

2.3.6 Summary of Theories on Corporate Leadership

This sub-section synthesizes the five CG theories that are discussed in this section prior to further focusing on the specific CG areas in board leadership and board structure in the subsequent two sections. Table 2.1 summarizes the parent and key literatures on each theory of corporate leadership, including their arguments and applications.
### Table 2.1: Summary of Literature on Theories of Corporate Leadership

<table>
<thead>
<tr>
<th>Theory</th>
<th>Parent / Key Literature</th>
<th>Argument and Application</th>
</tr>
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<tbody>
<tr>
<td>Institutional Theory</td>
<td>DiMaggio &amp; Powell (1983); Zucker (1987); Hodgson (2006)</td>
<td>Firms are influenced by normative pressures from external legal requirements and those arising from within the firm itself; however, CG code compliance is not a definite measure of better CG practice, which may lead to higher firm value or better firm performance.</td>
</tr>
<tr>
<td>Contingency Theory</td>
<td>Fiedler (1967); Boyd (1995)</td>
<td>Leadership effectiveness is a joint function of the characteristics and style of the leader in meeting the contextual situations, and corporate leadership is contingent upon organizational contextual factors.</td>
</tr>
<tr>
<td>Resource-dependence Theory</td>
<td>Pfeffer (1972); Pfeffer &amp; Salancik (1978); Conner &amp; Prahalad (1996); Johnson et al. (1996)</td>
<td>A firm gains its competitive advantage from the possession of critical resources and the board provides the critical resources with environmental linkages to the firm, which supports the separation of the CEO and COB to increase the leverage of their environmental linkages.</td>
</tr>
<tr>
<td>Theory</td>
<td>Parent / Key Literature</td>
<td>Argument and Application</td>
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<tr>
<td>Agency Theory</td>
<td>Monsen &amp; Downs (1965); Monsen et al. (1968); Jensen &amp; Meckling (1976); Fama (1980);</td>
<td>Individuals are self-interested optimizers creating the agency problem and increasing agency costs to corporations, which supports the separation of the CEO and COB with a higher degree of board independence for monitoring the firm operation by executives in order to minimize the agency risk.</td>
</tr>
<tr>
<td></td>
<td>Fama &amp; Jensen (1983a, 1983b); Eisenhardt (1989); Daily &amp; Dalton (1994a)</td>
<td></td>
</tr>
<tr>
<td>Stewardship Theory</td>
<td>Donaldson &amp; Davis (1991); Davis et al. (1997); Muth &amp; Donaldson (1998)</td>
<td>Individuals are motivated by intrinsic rewards, organizational identification, opportunities for growth and satisfaction from the use of power to act in the interests of the shareholders, which supports CEO duality with minimal independent expressions within the board for unity of leadership.</td>
</tr>
</tbody>
</table>
2.4 Board Leadership: CEO Duality versus Non-duality

CEO duality generally refers to one person concurrently holding a dual role, being both the CEO and COB (Boyd, 1995; Finkelstein & D'Aveni, 1994; Rechner & Dalton, 1991), or particularly, the practice of a single individual serving as both the CEO and COB at the same time (Krause et al., 2014) in an organization. Finkelstein and D'Aveni (1994) describe the leadership of CEO duality as a “double-edged sword”, as there is a tradeoff between the unity of command with CEO duality within the board and the independence of board with a CEO non-duality leadership structure. As most prior studies in board leadership are focused on U.S. companies (Kiel & Nicholson, 2003), this section first reviews the intermediate literature relating to the studies in the CEO duality-firm performance relationship of U.S. firms. The review focus then shifts onto the immediate literature of studies in Asia. This is followed by a summary of literature on board leadership and firm performance, as reviewed in this section.

2.4.1 Intermediate Literature in Board Leadership from Studies in the United States

Rechner and Dalton (1989, 1991) study the relationship between CEO duality and firm performance with a sample of 141 companies from Fortune 500 between 1978 and 1983. Prior to their longitudinal analysis, Rechner and Dalton attempt to measure the relationship with stockholder returns but they do not find any significant links between them (Rechner & Dalton, 1989). In their next attempt via longitudinal analysis, Rechner and Dalton use an accounting-based measure, instead of stockholder returns, and their results support the agency theory that firms having an independent COB consistently perform better than those with a CEO duality leadership structure (Rechner & Dalton, 1991). However, Rechner and Dalton’s findings are then immediately criticized by Donaldson and Davis (1991) through their introduction of stewardship theory into the board leadership debate, suggesting that a joined board leadership is more effective than non-duality, with evidence provided from a sample of 337 U.S. companies of various sizes across different industries.
Subsequently, Daily and Dalton (1994a, 1994b) focus this CEO duality-firm performance relationship through a different lens of the avoidance of bankruptcy from two separate matched-pair samples of bankruptcy and survivor firms. They argue that CEO duality would increase the rigidity of firms due to an over-empowered CEO to maintain the status quo, even though there would be a downturn of performance which may increase the likelihood of bankruptcy. On the one hand, they find evidence to support the idea that there is a significant positive relationship between CEO duality and firm bankruptcy (Daily & Dalton, 1994a). On the other hand, they also find no effect from CEO duality on the potential of firm bankruptcy (Daily & Dalton, 1994b).

While there are mixed arguments with individual evidences to support the downside of CEO duality (from the agency theorists’ view) as well as the benefits from CEO duality (from the stewardship theorists’ view), scholars are beginning to suggest that there are other elements affecting the CEO duality-firm performance relationship, and there are no universal conclusions that either board leadership structure is superior to the other. Boyd (1995) observes that this relationship is actually situational. He argues that CEO duality is negatively related to firm performance in a munificent environment, but benefits firms under the unity of command in a complex situation. In addition, there is evidence to show that there is no differences in chair independence under either a joint or separate board leadership structure (Daily & Dalton, 1997). Yet, Brickley et al. (1997) suggest that the costs of separating the CEO and the COB are larger than the benefits for most large firms. However, the changes in CEO duality status is unlikely to affect a firm’s long-term performance (Baliga et al., 1996).

After all the studies to search for evidence on the CEO duality-firm performance relationship, a meta-analytic review on the correlations from 31 research studies finally shows that there is no evidence of a significant correlation between CEO duality and firm performance (Dalton et al., 1998). Although there are slight differences in the CEO duality-firm performance correlations between studies using accounting-based and market-based performance measures, as found by Dalton et al. (1998), those differences
are actually minimal in affecting the true correlations between CEO duality and firm performance, such that there is no evidence to support that either the agency theory or the stewardship theory can predict a firm’s performance.

Beyond the arguments between agency theory and stewardship theory, recent debates on board leadership structure have moved forward to the extent of encompassing firm diversification from a risk-taking propensity (Kim, 2013; Kim et al., 2008; Kim & Buchanan, 2008), the life-cycle theory (Harjoto & Jo, 2009), the former CEO as board chair (Quigley & Hambrick, 2012), the two-tier governance structure with the former CEO as the board chair (Abels & Martelli, 2013), the process of CEO-board chair separation (Krause & Semadeni, 2013) and women in the dual role of CEO and chair (Muller-Kahle & Schiehll, 2013). Evidence from Kim et al. (2008) shows that CEO duality, which increases the chance of managerial opportunism in firm management (Kim & Buchanan, 2008), is positively associated with corporate diversification into unrelated industries that correspond to superior firm performance (Kim, 2013). From a comprehensive sample of U.S. firms with board leadership data during 1995 – 2005, Harjoto and Jo (2009) find evidence supporting the proposition that CEO power concentration (such as CEO-chair duality) is beneficial to firms in the early stage, but harmful to firms in the late stage, which requires “check-and-balance” by other directors on the boards. Quigley and Hambrick (2012) investigate the impact of a former CEO serving as the board chair. The evidence they find is that, although the board has separated the board leadership, this leadership can also create an agency problem while damping a firm’s strategic change and lowering the monitoring role of the board. Meanwhile, Abels and Martelli (2013) include the investigation of the two-tier governance structure in their studies of U.S. companies in 2008 and 2010. Their 2010 results show that over 61% of firms in their sample have a two-tier structure, in which 28.3% of those firms retain their retired CEOs as COBs and the highest retention rate comes from firms within the manufacturing sector (Abels & Martelli, 2013). Moreover, Krause and Semadeni (2013) examine the separation of the CEO-chair positions in three different ways: (i) apprentice – the former CEO serves as the COB with new CEO
appointment; (ii) departure – both CEO-chair leaves and is replaced by two individuals, the CEO and the COB; and (iii) demotion – the CEO remains from the CEO-chair with the COB position being replaced by an independent director. Krause and Semadeni (2013) conclude that whether or not the separation of the CEO and COB benefits a firm’s performance depends on the performance context in which the separation occurs. More recently, there have been increasing debates on the role of gender on board leadership. Muller-Kahle and Schiehll (2013) focus their study on the correlations of gender power in board leadership. Their findings show that female CEOs do not possess as much structural power (the inherent authority comes with the form of the organizational position) as male CEOs in the dual role; however, female CEOs are more likely to gain structural power if they are entrepreneurs, have worked in large companies or possess an elite education (Muller-Kahle & Schiehll, 2013).

In summary, after the long debates between agency theory and stewardship theory on the CEO duality-firm performance relationship, there is still no direct or simple conclusions as to whether CEO duality is positively or negatively related to firm performance. However, the impact of CEO duality on firm performance is rather situational and more complex than the agency-stewardship arguments. The CEO duality-firm performance relationship is subject to the boundary conditions on the agency and the stewardship perspectives (Krause et al., 2014). It is suggested that a combined quantitative and qualitative multi-level study with an integration of micro and macro domains in governance (Dalton & Dalton, 2011) may be more appropriate for studying the relationship. Moreover, recent debates further extend to the application of life-cycle theory, the succession of the former CEO as board chair, the two-tier governance system, the process of separation and women in the dual leadership role. Whether individuals with a dual capacity in firms take advantage for self-interest (agency theory) or act in the best interests of the shareholders (stewardship theory) depends almost solely on who the CEO is and what his or her values, beliefs and priorities are (Krause et al., 2014). Table 2.2 summarizes the intermediate literature of studies on the CEO duality-firm performance relationship in U.S. firms, as discussed in this sub-section, and the Appendix.
of this dissertation (enclosed with Table 1 of Krause et al., 2014, p. 259-260) presents a summary of prior studies on the effect of CEO duality on firm performance with evidence from the U.S.

2.4.2 Literature on Board Leadership with Evidence from Asia

The review of the immediate literature focuses on studies in board leadership and firm performance with evidence from various countries and markets in Asia, such as China (Peng et al., 2010; Peng et al., 2007; Yu, 2008), Hong Kong (Lam & Lee, 2008), Malaysia (Abdullah, 2004; Ponnu, 2008) and Singapore (Mak & Kusnadi, 2005; Pei, 2012; Tan et al., 2001; Wan & Ong, 2005), as well as a sample of stock-listed firms from Indonesia, Malaysia, South Korea and Thailand (Ramdani & Van Witteloostuijn, 2010).

(i) China

Most recent studies from mainland Chinese firms (Peng et al., 2010; Peng et al., 2007; Yu, 2008) show evidence supporting CEO duality. Peng et al. (2007) analyze their firm sample of 403 state-owned enterprises with a total of 1,202 company-years data between 1992 and 1996. Their study follows Boyd’s (1995) contingency approach and the results show that CEO duality is positively related to firm performance with strong support for this relationship from firms in low munificence and high dynamism environments. Yu (2008) is supported by similar findings from more recent sets of sample between 2000 and 2003, before and after the implementation of the Code of Corporate Governance for Listed Companies in China (CSRC, 2002). Yu (2008) suggests that industry and environment have moderating effects on the CEO duality-firm performance relationship, such that CEO duality is not related to firm performance from 2000 to 2001 (before the compliance with the CG code). Meanwhile, Yu’s results from data between 2002 and 2003 (after the compliance with the CG code) show that CEO duality is positively related to firm performance, whereas this positive CEO duality-firm performance relationship is stronger in high volatility and low munificence environments. Subsequently, Peng et al.
(2010) examine the moderating effect of CEO duality on the relationship between organizational slack – the redeployment of potential utilizable resources in achieving a firm’s goals (Daniel, Lohrke, Fornaciari, & Turner Jr, 2004), and firm performance with a random sample of 300 firms including 163 SOEs and 137 POEs between 2004 and 2005. Peng et al. (2010) conclude from their findings that there is a positive relationship between organizational slack and firm performance, such that CEO duality negatively moderates the relationship between organizational slack and firm performance in China’s SOEs, but positively moderates the relationship in POEs.

(ii) Hong Kong

The study by Lam and Lee (2008) examines the relationship between CEO duality and firm performance, and the moderating effect of the family factor on this relationship in public companies in Hong Kong. Their research objective is to compare 128 companies listed on the Hong Kong Stock Exchange in 2003 in order to assemble evidence of the relationship between CEO duality and accounting performance from the family control factors and with the non-family firms. The evidence from their study supports that the stewardship theory is applicable to non-family firms with the potential benefits of CEO duality outweighing their potential costs, whereas the agency theory is relevant to family-controlled firms where the potential benefits of non-duality outweighing its potential costs. Lam and Lee’s (2008) evidence suggest that neither agency theory nor stewardship theory alone can universally explain the impact of the CEO duality-firm performance relationship in Hong Kong. In their case, there are different findings from data sets between family-controlled firms and non-family firms. However, Lam and Lee’s (2008) study is solely based on publicly available data which limits their findings to the extent that the actual board processes are not examined.
(iii) Malaysia

Abdullah (2004) collects firm data from listed companies on the main board of the Kuala Lumpur Stock Exchange (KLSE) with sample sizes of 347, 369 and 412 being grouped into three data sets, namely 1994, 1995 and 1996 respectively, when CG regulations were not as structured in Malaysia as they were after the 1997 AFC. The findings by Abdullah (2004) suggest that neither board independence nor leadership structure has any association with firm performance. Meanwhile, Ponnu (2008) conducts another study in Malaysia with data from 100 companies in 1999 (prior to the implementation of the Malaysian Code of Corporate Governance, MCCG), and in 2005 (after the implementation of MCCG in 2000). The findings by Ponnu (2008) are consistent with Abdullah (2004), suggesting that there is no significant relationship between CEO duality and board independence to firm performance.

(iv) Singapore

Tan et al. (2001) collect data from companies listed on the SGX, 77 firms in 1997, 81 firms in 1996 and 81 firms in 1995, in three data sets to test the relationship between CEO ownership and firm performance before and during the 1997 AFC. Tan et al. (2001) find evidence from their study to suggest CEO duality is significantly related to firm value during the financial crisis, and this suggestion supports the argument that the benefits from a strong CEO duality leadership outweighs the costs (Brickley et al., 1997) in a turbulent environment.

From another study in board size and firm value with firm data after the 1997 AFC, Mak and Kusnadi (2005) include board leadership in their regression model to test the relationship between board structure, ownership concentration and firm performance. Their regression results from 460 firms (230 from Singapore and 230 from Malaysia) between 1999 and 2000 show that CEO duality has no significant effect on firm performance.
In terms of board performance, Wan and Ong (2005) focus on the gap between board structure and board performance through board processes with respect to public companies listed on the SGX. Their research objective is to investigate whether board processes are mediating the relationship between board structure (CEO duality and insider versus outsider directors) and board performance (board roles and transparency). Based on their conceptual model and data from 212 company responses and 299 directors, Wan and Ong (2005) conclude that board structure does not affect board processes. However, they do find that board processes are related to board performance, whereas board processes do not mediate the relationship between board structure and board performance. Hence, there is no conclusive evidence to fill the gap between board structure and board performance. Although this study limits the findings to board performance, it provides a conceptual model of board processes for future research on how the dynamics of the board impact upon its decision-making activities and to what extent it does on firm performance.

Pei (2012) conducts another study in firms from different sectors listed on the SGX between 2002 and 2004 to test the impact of the implementation of the first Singapore CG code (CCG, 2001), which took effect from 1 January 2003, on the relationship between board diversity, firm performance and board independence. In Pei’s (2012) study, board leadership structure is included in the regression model of board diversity that is further substituted into the core regression model of firm performance for testing their relationships. Before conducting the regression analysis to test the hypothesized models, Pei (2012) undertakes analysis on the variables in various data sets, and the results consistently show that there is no statistically significant relationship between CEO duality and firm performance.
Ramdani and Van Witteloostuijn (2010) conduct their study on the relationships between board independence, CEO duality and firm performance with respect to public companies listed in Indonesia, Malaysia, South Korea and Thailand. They test their hypotheses through the empirical setting (Nam & Nam, 2004) conducted by the Asian Development Bank Institute (ADBI), which includes listed companies from Indonesia, Malaysia, Thailand and South Korea between 2001 and 2002, with questionnaires sent to 66 firms (19.82% of all listed firms) in Indonesia, 111 firms (6.48% of all listed firms) in South Korea, 75 firms (8.28% of all listed firms) in Malaysia and 61 firms (11.21% of all listed firms) in Thailand. Ramdani and Van Witteloostuijn’s (2010) research objective focuses on illustrating the effect of board independence and CEO duality on firm performance that is different across different levels of firm performance. The authors argue that quantile regression (Koenker & Hallock, 2001) is widely applicable to research in organizational sciences. Their paper begins by distinguishing itself from other studies to emphasize the use of quantile regression as a powerful estimation method in the CG research, whereas the ordinary least squares (OLS) regression modeling was widely adopted at the time of the study. By applying quantile regression, the empirical study can address questions concerning different levels of firm performance. In particular, it can test whether the research relationships are different for the high-performing, average-performing and low-performing firms. With the supportive evidence at different levels of firm performance, Ramdani and Van Witteloostuijn (2010) suggest that the CEO duality-firm performance relationship is insignificant for those under-performing and top-performing corporations, but there is a positive CEO duality-firm performance relationship in the average-performing firms which demand strong and unified leadership to face their complicated operational and managerial issues. In addition, their results also suggest that there is a negative moderating effect by board size on the positive CEO duality-firm performance relationship.
In summary, the evidence on board leadership from Asia is consistent with that of the U.S., with mixed findings in which there is no direct and simple conclusions indicating that CEO duality is positively or negatively related to firm performance. However, the studies in Asian firms have yielded more conditional results to support stewardship theory for the CEO duality-firm performance relationship than those in U.S. firms. Moreover, the evidence of CEO duality-firm performance relationships from Asian firms by meta-analysis (Van Essen et al., 2012) is also consistent with those from U.S. firms (Dalton et al., 1998). Van Essen et al. (2012) apply meta-analysis and structural equation modeling (M. W.-L. Cheung & Chan, 2005; Hedges & Olkin, 1985) on a database of 69 studies and 17 papers representing a total of 167,073 firm-year observations from Asia (China, Hong Kong, India, Japan, Malaysia, Singapore, South Korea, Taiwan and Thailand) to study the relationships between board structure, board composition and firm performance. Van Essen et al.’s (2012) findings by using the Hedges and Olkin-type meta-analysis (HOMA) suggest that there is no significant relationship between CEO duality and firm performance in Asia. However, their results are different by country showing that the CEO duality-firm performance relationship is significantly positive in China, but there is no significant relationship for other Asian countries. In addition, there is also a recent trend to study the gender role on Asian BODs. For instance, the evidence from Singapore listed companies between 1988 and 2001 suggests that there is a positive effect on stock price during the two-day announcement period from non-duality appointments of female directors as CEOs (Ding & Charoenwong, 2013).

Studies on the relationship between board leadership and firm performance in the context of U.S. and Asian firms are reviewed in this section. These studies are classified, based on their key empirical findings, in Table 2.2.
Table 2.2: Summary of Literature on the Relationship between Board Leadership and Corporate Performance

<table>
<thead>
<tr>
<th>Literature</th>
<th>Inconclusive / No Relationship</th>
<th>Supporting CEO Duality</th>
<th>Supporting CEO Non-duality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intermediate Literature (U.S. Firms)</td>
<td>Rechner &amp; Dalton (1989); Daily &amp; Dalton (1994b); Baliga et al. (1996); Daily &amp; Dalton (1997); Dalton et al. (1998); Krause &amp; Semadeni (2013) depends on the performance context; Krause et al. (2014) depends on who the CEO is and what his or her values, beliefs and priorities are</td>
<td>Donaldson &amp; Davis (1991); Boyd (1995) in a complex situation; Brickley et al. (1997); Harjoto &amp; Jo (2009) in the early stage of firms; Kim (2013) with the promotion of corporate diversification into unrelated industries</td>
<td>Rechner &amp; Dalton (1991); Daily &amp; Dalton (1994a); Boyd (1995) in a munificent environment; Harjoto &amp; Jo (2009) in the late stage of firms</td>
</tr>
</tbody>
</table>

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2.5 Board Structure: Collegiality versus Independency

It has long been suggested that a BOD has a need for outsiders who can see things differently, such that they can disagree with the management and question the chief-executive team (Drucker, 1954). Although the COB as well as CEO are both engaged in creating a boardroom environment for quality decision-making processes (Bailey & Peck, 2013), it is still debatable as to whether a collegial or an independent board structure has a positive effect on the relationship between board leadership and firm performance. This section discusses the roles of three concerned board characteristics (board independence, board size and nomination committee) on board leadership and firm performance.

2.5.1 Board Independence

There is increasing pressure from the regulators, as well as the markets, on listed firms to follow the CG codes after the two financial crises in 1997 and 2008. However, the institutional theorists suggest that regulatory compliance may not necessarily lead to higher firm value or increase firm competitiveness in the market (DiMaggio & Powell, 1983). In addition, there are three different views on board independence according to agency theory, stewardship theory and resource-dependence theory. From the perspective of agency theory, the CEO as a firm’s agent is a self-interested optimizer and executives may take decisions to optimize their wealth and/or minimize their risk at the expense of the shareholders (Elsayed, 2007), which induces greater agency costs, implying a greater need for monitoring by outside directors (He & Sommer, 2010). Thus, independent boards with more outside directors can promote better firm performance by performing managerial monitoring tasks more effectively to reduce agency costs (Eisenhardt, 1989; Fama, 1980; Fama & Jensen, 1983b; Jensen & Meckling, 1976). The CEO duality board leadership structure shows that dominant CEOs may constrain board independence (Bliss, 2010) and dominate board decisions with less effective monitoring opportunities (Daily & Dalton, 1993; Jensen, 1993) by way of reducing board independence (Finkelstein & D'Aveni, 1994; Rhoades et al., 2001). Conversely, according to stewardship theory,
boards with minimal independent members help promote the unity of the board under the CEO duality leadership with a majority of inside directors to minimize information asymmetry within the board and to enhance a single leading role for a superior corporate performance (Muth & Donaldson, 1998). According to resource-dependence theory, more outside directors increases the linkages of a firm to the external environment for accessing essential resources in maximizing firm performance (Pfeffer, 1972; Pfeffer & Salancik, 1978). Figure 2.1 schematizes the three CG theories on board structure with their expected corporate outputs from different board demographics.

**Figure 2.1: Corporate Output Processes Predicted by Three Corporate Governance Theories with Different Board Demographics**

(Source: Figure 1 of Nicholson and Kiel, 2007, p. 590)
In essence, it is the way how a board leadership develops the right process-oriented boardroom dynamics for the board members with different personalities, motivations and values to interact with each other in fulfilling their roles in a firm’s CG (Huse, Minichilli, & Schoning, 2005). Nevertheless, there are two separate meta-analyses on U.S. firms (Dalton et al., 1998) and Asian firms (Van Essen et al., 2012) that have different views on board independence and firm performance. In the meta-analytic reviews on U.S. firms, Dalton et al. (1998) suggest that board composition in terms of the proportion of outside directors on BOD and board leadership with CEO duality are inconsistent to their relationships to firm performance. However, Van Essen et al. (2012) apply the HOMA on Asian firms with supportive results to suggest that board independence is positively related to firm performance. Hence, there is mixed evidence from the U.S. and Asia on the relationship between board independence and firm performance, and no single theory could explain the general pattern of corporate outputs from different board demographics (Nicholson & Kiel, 2007).

2.5.2 Board Size

According to resource-dependence theory, the BOD not only provides expertise as a critical resource for the firm, but it also leverages the environmental linkages of the firm to cope with the environment in reducing the impact from the environmental uncertainty (Pfeffer & Salancik, 1978). Thus, a larger board provides greater firm exposure to the external environment for accessing resources, and has a positive effect on firm performance (Jackling & Johl, 2009). However, according to agency theory, board size also has an inverse association with firm performance (Jensen, 1993; Yermack, 1996), especially on those boards with a CEO duality leadership structure (Elsayed, 2011). In addition, there is also a trade-off between the costs and benefits of various board sizes in determining the optimal board sizes for firms (Ning, Davidson III, & Wang, 2010).

Meanwhile, there is a mix of evidence in supporting both arguments regarding board size. On the one hand, a larger board has a positive impact on firm performance and, hence, it
has a positive relationship with each other (Jackling & Johl, 2009; Larmou & Vafeas, 2010; Setia-Atmaja, 2008). On the other hand, there is evidence from other studies to suggest that there is an inverse relationship between board size and firm performance (Drakos & Bekiris, 2010), such that smaller boards promote better firm performance (Cheng, Evans III, & Nagarajan, 2008). In terms of the consistency of firm performance, empirical evidence shows that it takes more effort for larger boards to reach a consensus in varying corporate performance (Cheng, 2008), which lowers firm performance volatility as well as any bankruptcy risk (Nakano & Nguyen, 2012). In other words, smaller boards find it easier to reach a consensus to take more risky investments that also associate with higher future risk to firms (Wang, 2012).

Furthermore, Van Essen et al. (2012) again use the HOMA on Asian firms to find a negative relationship between board size and firm performance. Other evidence from Singapore and Malaysia also shows support for the inverse relationship between board size and firm performance (Mak & Kusnadi, 2005), in which board independence (in terms of the proportion of outside directors on board) of firms in Singapore is negatively related to board size (Mak & Li, 2001). Nevertheless, other studies from Hong Kong and Singapore (Heaney, 2009) consistently observe that board size is relatively smaller with a higher proportion of executive directors on boards and with a CEO duality leadership; whereas the sizes of mainland Chinese boards are primarily driven by firm complexity (C. H. Chen & Al-Najjar, 2012). Thus, the evidence from Asia, in particular from Hong Kong, Malaysia and Singapore, shows consistency that there is a negative association between board size and firm performance.

2.5.3 Nomination Committee

The forming of a board committee makes the functions of a BOD more manageable and ensures that outside directors have opportunities to play their parts in a firm’s CG (Cadbury, 2002). The role of the nomination committee, being one of the three essential governance committees along with the audit and remuneration committees within BODs
(R. I. Tricker, 1994), is to suggest board memberships so as to introduce persons with
different experience, personalities and diversity to the board from the potential
domination by COB, CEO or other directors on board (B. Tricker, 2012). This is in line
with the resource-dependence theory which argues that boards with nomination
committees have a higher degree of diversity than those without (Ruigrok, Peck, Tacheva,
Greve, & Hu, 2006). However, the evidence from U.S. companies shows that there are
fewer appointments of independent directors to the board when the CEO is involved in
the selection process (Shivdasani & Yermack, 1999), and board members who have social
ties to the CEO or whose demographic profiles match the top manager are more likely to
be appointed to the nomination committee (Bilimoria & Piderit, 1994). It fails to align
the interests of the shareholders through the director selection process (Westphal & Stern,
2007). Shareholders may assemble a more monitor-heavy board when a powerful CEO
influences the nomination process (Baldenius, 2013). Similarly, the evidence from U.K.
firms shows the presence of the CEO on the nomination committee increases the number
of appointments of both executive and non-executive directors who have demographic
similarities with the CEO, such as their age, gender, nationality, education, board tenure
and financial background (Kaczmarek, Kimino, & Pye, 2012). Hence, the establishment
of independent board committees may strengthen a firm’s CG, and the evidence from
Hong Kong shows that the presence of a nomination committee is positively related to
firm performance (Lam & Lee, 2012).

In Singapore, it is suggested by the CCG 2012 that independent directors should make up
at least one-third of the board (at least half in the case of CEO duality), and firms should
establish a nomination committee for all board appointments with a majority of
independent directors in the committee. While there is no substantial evidence on board
committees and firm performance (Mak & Kusnadi, 2005) and all firms have formed their
audit and remuneration committees, this study focuses only on the presence of
nomination committees in Chinese firms among the three well-accepted committees
within the BODs for investigation.
2.6 Corporate Governance of Mainland Chinese Firms

This section describes the CG evolution and practices in China. The history of CG reforms in China and the CG framework of mainland Chinese firms are first described in the two consecutive sub-sections. This is followed by a discussion on the key board and organizational issues related to this study in the last sub-section, with an overview of the board practices of listed firms in China.

2.6.1 Corporate Governance Reforms in China

There are, primarily, three sectors of firms in the Chinese economy, namely: State, Listed and Private sectors (Allen, Qian, & Qian, 2005). According to Allen et al. (2005), the State sector includes all companies in which the Chinese government has ultimate control (such as SOEs); the Listed sector includes all firms that are listed and publicly traded on an exchange (SOEs and POEs); and the Private sector includes all the other firms with various types of private and local government ownership. The equity ownership is concentrated within the state for firms converted from the State sector, whereas founders’ families ownerships are concentrated within non-state firms (Allen et al., 2005). Traditionally, SOEs dominate the contribution of economic growth in China, and these SOEs have evolved from a model whereby the state held all their property ownership and managerial rights, to the extent that some enterprises underwent privatization through public listing to the Listed sector.

Subsequent to the three CG development stages in China (Y. L. Cheung, Jiang, Limpaphayom, & Lu, 2010): (i) Traditional stage (1949 – 1984); (ii) Transitional stage (1984 – 1993); and (iii) Modern Corporate stage (1993 and onwards), China eventually joined the WTO in 2001 and adopted the OECD Principles of Corporate Governance to improve the CG of Chinese listed companies. The following year, in 2002, the CSRC and the National Economic and Trade Commission jointly issued the Code of Corporate Governance of Listed Companies (CSRC, 2002), which is based on the OECD CG
principles, to further enhance the CG system for listed companies in China, such as the introduction of investor protection, a basic code of conduct and professional ethics for directors, supervisors (members of the supervisory board), managers and other executives. However, the issuance of the CG code in China, as a country with the civil law tradition, is initiated likely by legitimating reasons rather than aimed at improving the CG practices of listed firms, in particular for SOEs (Zattoni & Cuomo, 2008).

### 2.6.2 Corporate Governance Framework and Overseas-listing of Chinese Firms

The revised Company Law and Securities Law were introduced in 2006 and provided the foundation for the development of the contemporary CG framework in China. The revised Company Law highlights the legal obligations and responsibilities of the directors, senior executives and supervisors; whereas the revised Securities Law improves the supervision of listed companies by means of their issuance, trading, registration and settlement of securities (OECD, 2011). Figure 2.2 provides the current corporate governance framework of listed companies in China.
Corporations in China, like firms in countries with a German-civil-law system (such as Germany and Japan), adopt a two-tier (or dual) CG system, that is, firms with a board of directors and a supervisory board (refer to Figure 2.2). In Asia, there is a mix of countries with English, German, French and Socialist legal origins (La Porta, Lopez-de-Silanes, & Shleifer, 2008). Figure 2.3 shows the distribution of legal origin by countries around the world. However, this study concerns only the legal systems in China (German legal origin) and Singapore (English legal origin) among the legal systems in Asia for the purpose of discussion on CG and legal differences between these two jurisdictions.
Unlike firms in countries with an English legal origin (such as the U.S. and Singapore) that adopt a unitary CG system and operate with the shareholder CG model (Tabalujan & Du Toit-Low, 2012), corporations in China adopt a two-tier model with the stakeholder approach (Yaacob & Basiuni, 2013) such that executives act in the interests of their shareholders as well as their stakeholders. The potential agency problem that exists in Chinese SOEs is likely to come from the conflicts between the state, its agents (directors and executives) and the outside minority shareholders. Nevertheless, Chapters 4 and 6 of the Chinese CG code (CSRC, 2002) include the composition and duties of the supervisory board and the corporate responsibilities to its stakeholders respectively, which is rather unique and distinct from the Singaporean CG code.
Since the Modern Corporate CG development stage (Y. L. Cheung et al., 2010) started in the early 1990s, there was transformation of SOEs into shareholding companies and private firms to become incorporated in order to generate a productivity improvement (Li & Yueh, 2011). While Chinese SOEs underwent privatization through public listing in Shanghai and Shenzhen, some of the better performed SOEs were allowed to go listing in Hong Kong and New York. In other words, the first batch of SOEs that listed in Hong Kong and New York in 1990s were those with strong performance and considered to be the “best of the best” SOEs in China (Huang & Song, 2005). However, after the Chinese authority further removed the quota system for initial public offerings (IPOs), only a few of the private Chinese companies could raise share capital from the long queues at the two domestic stock exchanges in Shanghai and Shenzhen. In view of this insufficient financing mechanism for the private sector, the Chinese authority allowed some small to medium-sized Chinese companies to list on overseas stock exchanges, such as Hong Kong, New York and Singapore, in order to raise their share capital.

In summary, there were significant numbers of mainland Chinese firms who had been listed on overseas stock exchanges since the early 1990s. These overseas-listed Chinese companies tended to focus more on the role of stakeholders with a higher degree of disclosure and transparency, than the non-overseas-listed Chinese companies (Y. L. Cheung, Jiang, Limpaphayom, & Lu, 2008). During the Chinese stock market boom in 2007, evidence from the U.S. stock markets (New York Stock Exchange, American Stock Exchange and NASDAQ) showed mainland Chinese firms that included “China” in their company names consistently outperformed those non-China-name stock (Bae & Wang, 2012). Similarly, this “China” stock booming effect also influenced the stock markets in Hong Kong and Singapore.

2.6.3 Board System and Leadership of Mainland Chinese Firms

The Chinese Company Law, revised in 2006, states that the primary function of the board of directors is ...to abide by the law, administrative laws and regulations, and the articles
of incorporation and have the duty of loyalty and diligence to companies; and the function of the supervisory board is to abide by the law, administrative laws and regulations, and the articles of association of the company and have the duty of loyalty and diligence to companies (OECD, 2011, p. 77). Unlike a BOD that directs and monitors management, a supervisory board is a permanent supervisory body directly responsible to the shareholders in exercising its power independently over the BOD, management and to the extent of the whole company. Independent directors and members of the supervisory board both act with an internal monitoring role for the company. However, independent directors tend to take up the decision-making process to provide ex ante supervision, whereas members of the supervisory board mainly has the role of ex post supervision (OECD, 2011). According to the Chinese CG code (CSRC, 2002), independent directors, having the independence from their employer and the company’s shareholders, should make up more than one-third of the BOD.

Meanwhile, there are consistent results from listed mainland Chinese firms suggesting that the stewardship hypotheses receive stronger empirical support than the hypotheses derived from the agency theory (Tian & Lau, 2001). On the one hand, there is empirical support for the stewardship theory that CEO duality is positively related to firm performance (Peng et al., 2007; Van Essen et al., 2012; Yu, 2008). On the other hand, there are supporting results showing that the conventional agency theory is inadequate to explain the Chinese internal and external governance mechanisms (Huyghebaert & Wang, 2012), in which the concentrated ownership structure of the mainland Chinese firms, such as the state ownership with SOEs and founder-families’ ownerships with POEs (Allen et al., 2005), reduces agency costs (Zhang, 2008) and to the extent that family CEOs are positively related to the firm performance of POEs (Cai, Luo, & Wan, 2012). Nevertheless, the evidence from 15,840 firm-year observations in China between 2000 and 2010 shows that there is an increasing trend to have more outside directors on BODs with a CEO duality leadership, while the sizes of both the board of directors and the supervisory board are getting smaller (Conyon & He, 2012). The board statistics by Conyon and He (2012) are provided in Table 2.3 with graphical presentation.
Table 2.3: Board Statistics of Listed Firms in China between 2000 and 2010
(Adapted from Table 3 of Conyon and He, 2012, p. 581)

<table>
<thead>
<tr>
<th>Year</th>
<th>CEO Duality</th>
<th>BOD Size (No.)</th>
<th>Supervisory Board Size (No.)</th>
<th>Proportion of Outside Directors on BOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>0.16</td>
<td>9.42</td>
<td>4.33</td>
<td>0.02</td>
</tr>
<tr>
<td>2001</td>
<td>0.12</td>
<td>9.37</td>
<td>4.33</td>
<td>0.06</td>
</tr>
<tr>
<td>2002</td>
<td>0.11</td>
<td>9.86</td>
<td>4.26</td>
<td>0.24</td>
</tr>
<tr>
<td>2003</td>
<td>0.11</td>
<td>9.86</td>
<td>4.27</td>
<td>0.33</td>
</tr>
<tr>
<td>2004</td>
<td>0.12</td>
<td>9.71</td>
<td>4.20</td>
<td>0.34</td>
</tr>
<tr>
<td>2005</td>
<td>0.12</td>
<td>9.57</td>
<td>4.16</td>
<td>0.35</td>
</tr>
<tr>
<td>2006</td>
<td>0.13</td>
<td>9.42</td>
<td>4.09</td>
<td>0.35</td>
</tr>
<tr>
<td>2007</td>
<td>0.16</td>
<td>9.39</td>
<td>4.06</td>
<td>0.36</td>
</tr>
<tr>
<td>2008</td>
<td>0.16</td>
<td>9.26</td>
<td>4.00</td>
<td>0.36</td>
</tr>
<tr>
<td>2009</td>
<td>0.19</td>
<td>9.14</td>
<td>3.92</td>
<td>0.36</td>
</tr>
<tr>
<td>2010</td>
<td>0.22</td>
<td>9.08</td>
<td>3.84</td>
<td>0.37</td>
</tr>
</tbody>
</table>

Note: Combined CEO and COB is indicated by 1 and otherwise by 0.
2.6.4 Organizational Guanxi

In addition to the CG studies in China, there is a unique Chinese cultural concept of *guanxi* (an informal relationship between individuals to solicit favours) that influences the corporate performance of mainland Chinese companies, and, to an extent, their CG practices. First, on the corporate level, the evidence from an earlier study in the *guanxi*-performance relationship shows that *guanxi*-based business variables, such as sales force marketing and credit liberalization, are significantly positively related to firm performance, whereas *guanxi* has a significant positive impact on the efficiency and effectiveness of firm operation in China (Luo & Chen, 1997). Second, from the executive development prospective, there is evidence to support that *guanxi* is a substantial factor driving success in Chinese managerial progression, such that the stronger and wider the inner- and outer-anchor-relationships are, the better the opportunities for career advancement (Wong & Slater, 2002). Third, between the managers and their subordinates, a recent study suggests that supervisory favors to subordinates (such as promotions, bonuses and training opportunities) has a positive effect on trust in the supervisor. Furthermore, subordinates’ attribution (performance) based merit is positively associated with trust in the supervisor, such that both supervisory favors to subordinates based on their performance reinforces the trust between them (Jiang, Chen, & Shi, 2013). However, besides *xing* (trust), there is another Chinese concept of *qing* (feeling) that helps to predict the quality of *quanxi* (X. P. Chen & Chen, 2004). *Qing*, in Chen and Chen’s (2004) model, is divided into *qanqing* (the affective attachment from an emotional commitment between two individuals) and *jiaoqing* (the affective attachment from an interaction or exchange including business transactions) according to their contextual differences, in which *qanqing* is more related to sincerity-based trust and *jiaoqing* is more related to ability-based trust. Figure 2.4 schematizes the two predictors of *guanxi* quality, as suggested by Chen and Chen’s (2004) model.
In summary, the construct of guanxi is embedded in China and, to a certain extent, influences firm performance (Luo & Chen, 1997), executive development (Wong & Slater, 2002) and management-subordinate trust (Jiang et al., 2013) in mainland Chinese companies. While a number of studies on Chinese firms are supported by the stewardship theory, there is an indicative sign of correlation between the two psychologically based ideas, the guanxi construct and the stewardship theory. In terms of board leadership, guanxi is essential for executives to reach the top to the CEO position and to gain trust from their subordinates in order to improve firm performance. Hence, the quality of guanxi (X. P. Chen & Chen, 2004) plays an interactive role in board leadership, and this study adopts guanxi as another cultural construct to discuss the relationship between board leadership and firm performance in Chinese firms.
2.7 Corporate Governance and Chinese Firms in Singapore

This section focuses on the regulatory and governance environments in Singapore starting from the country’s legal origin to its CG system. Afterward, the evolution of the CG code in Singapore from its first CG code issued in 2001 to the latest CG code issued in 2012 is discussed, followed by a review on listed Chinese firms in Singapore in the last subsection.

2.7.1 Singapore Regulatory and Corporate Governance Systems

After becoming a sovereign state in 1965, the English common law tradition continues to play a significant role in Singapore as its legal basis. The regulatory framework governing the Singapore capital market is comprised of statutory laws under the Securities and Futures Act (SFA) and the Companies Act (CA); and non-statutory rules, such as the Code of Corporate Governance and the SGX Mainboard Rules, which are applicable to all listed companies. In Singapore, a company which is incorporated under the CA is generally called a Singapore incorporated company, whereas a foreign company is defined to include a company incorporated outside of Singapore and the unincorporated entity that can be sued in its own name under the law of its place of origin (Tabalujan & Du Toit-Low, 2012).

The CG system of Singapore is originated from the Anglo-American model, which relies on market mechanisms for corporate control (Kimber & Lipton, 2005). With respect to the company law of Singapore, CG covers the issues of accountability, control, transparency and predictability in the context of how companies are owned, managed and operated in Singapore (Tabalujan & Du Toit-Low, 2012). Similarly to the U.S. and Hong Kong, firms in Singapore adopt the shareholder governance model to emphasize the maximization of shareholders’ wealth. Under the shareholder model, the CG system of Singapore relies on the capital market instead of institutional stakeholders as its basis for governance.
### 2.7.2 Corporate Governance Code Evolution in Singapore

The evolution of the CG code in Singapore can be divided into three phases. After the 1997 AFC, the Singapore government recognized the need to strengthen its financial sector by implementing a number of fiscal and monetary initiatives to improve its competitiveness, and to make significant proposals to improve corporate governance in Singapore (Mak & Phan, 1999). The impact on CG practices of firms in Singapore started from the formation of the Corporate Governance Committee (CGC) in January 2000, which was jointly commissioned by the Ministry of Finance (MoF), the Monetary Authority of Singapore (MAS) and the Attorney-General’s Chambers. The CGC reviewed and presented the first Code of Corporate Governance report in March 2001, and it was subsequently accepted as Singapore’s first CG code in April 2001. The first CG code, the “Code of Corporate Governance 2001” (CCG, 2001), adopted a balanced and disclosure-based approach which is similar to the approaches in the U.K. According to CCG 2001, all listed companies are required on a non-mandatory basis to disclose their CG practices in compliance with the code or explain such deviations from the code in their annual reports for annual general meetings (AGMs) held from 1 January 2003 onwards.

After the launching of the first CG code in Singapore, the MoF appointed the Council on Corporate Disclosure and Governance (CCDG) to review the 2001 CG code. The review started from May 2004, including a consultation from December 2004 to February 2005. Upon completing the code review, the CCDG submitted its recommendations to MoF in June 2005 with key revisions, such as how the independent directors are defined and the provisions for the disclosure of directors’ remuneration. Subsequently, in July 2005, the MoF announced that the revised CG code the “Code of Corporate Governance 2005” (CCG, 2005) superseded the prior CCG 2001, and it was effective for AGMs held from 1 January 2007 onwards. The CCG 2005 also adopts the “comply or explain” approach for listed companies to disclose their CG practices and to provide appropriate explanations for any deviations from the code provisions in their annual reports.
In February 2010, the MAS established the Corporate Governance Council to take up its responsibility to review and enhance CCG 2005. After the consultations on their proposed code revisions, the Council submitted its consultation report to MAS and, in May 2012, the latest Singaporean CG code, the “Code of Corporate Governance 2012” (CCG, 2012), was issued by the MAS and was deemed to apply to all listed companies from their financial year commencing on or after 1 November 2012. In general, the CCG 2012 promotes a stronger and more independent board, with independent directors making up at least half of the board from one third where CEO duality takes place within the board.

However, the period of this study falls between 2009 and 2011 when listed companies in Singapore still referred to CCG 2005 for guiding their CG practices. Hence, all code compliance discussions in this study are based on CCG 2005.

2.7.3 Mainland Chinese Firms in Singapore

There are generally two main types of China-based companies listed on the Singapore Exchange (D. Lu, 2008): (i) Singapore subsidiaries of parent companies incorporated and located in mainland China; and (ii) Singapore subsidiaries of parent companies incorporated in a third jurisdiction, such as Bermuda, British Virgin Islands, Cayman Islands and Hong Kong, with the majority of their shareholdings being from mainland China. Foreign listings on the SGX include companies with their principal places of business outside of Singapore (SGX, 2010). Chinese firms listed on the SGX are companies having their business operations, or being domiciled, in mainland China, and over 40% of those listed Chinese firms are incorporated outside of Singapore. These SGX-listed Chinese companies are generally referred to “S-chips” in Singapore, whereas their shares are known as “S-shares”.
After the Chinese authority removed the quota system for IPOs in 2000, there was lengthy queuing for IPOs at the two domestic stock exchanges in China. In view of this limitation on IPOs for Chinese firms domestically, the Chinese authority allowed small to medium-sized Chinese companies to list on overseas stock exchanges in order to raise their share capital. The stock exchanges in Hong Kong and Singapore are the two most popular markets outside China with lower transaction costs for mainland Chinese firms to raise their capital. According to the interviews with business practitioners involving S-share listing in Singapore (D. Lu, 2008), the benefits of China-based companies listing on the SGX includes:

- The well defined and transparent listing procedures of the SGX;
- The listing standards being lower than those required in China;
- The shorter time requirement for issuing additional shares after IPOs;
- The high liquidity for firms without capital and foreign exchange controls in Singapore;
- The majority of ethnic Chinese population having closer cultural connection in Singapore; and
- Singapore being more preferable to POEs than Hong Kong because: (i) too many large SOEs have already listed in Hong Kong, (ii) the monopolistic earnings by SOEs in Hong Kong, (iii) the cost for IPOs in Singapore is lower, (iv) the price-earnings (P/E) ratio on the SGX is relatively higher than the P/E ratio on the Hong Kong Exchange (HKEx), (v) the listing rules of SGX are less stringent than the HKEx, and (vi) the termed reverse merger mode for listing is easier in Singapore than in Hong Kong.
During the financial crisis and economic downturn from 2008 to 2011, S-chips in Singapore, together with other overseas-listed Chinese firms elsewhere, were highly publicized by the mass media in many corporate scandals. Accounting irregularities were discovered in a number of Chinese firms listed in the U.S., Hong Kong and Singapore that sparked regulatory initiatives to review their CG and internal controls. These scandals and irregularities also triggered MAS to establish its Corporate Governance Council in 2010 for reviewing the CCG 2005 in order to improve board independence and enhance corporate transparency. However, the market performance of S-chips bounced back shortly after the 2008 GFC, in which S-chips still provided a comparatively economic and more direct exposure to China’s energetic economy along with the rebuilding of investor confidence on them by their proposed CG reforms. Nevertheless, from the Sino-Singaporean perspective, guanxi indeed has a positive impact on business performance for those firms who have strong business networks to China (Ewing et al., 2000), and S-chips particularly provide Singaporean investors with this linkage opportunity from their business ties and operations in China. In the context of Singapore, guanxi is also linked to trust and obligation, where CEOs with good guanxi quality are usually impressed with high “reliability” (Bian & Ang, 1997).

For the post-listing performance of overseas-listed Chinese firms, the evidence from 90 Chinese companies listed on the Hong Kong, Singapore, U.S. (NYSE and NASDAQ) and U.K. stock exchanges between 1993 and 2006 suggests that firms with more than three independent directors on their boards are likely to perform better in terms of return on sales (ROS), and there is a positive effect of CEO non-duality on asset turnover after their overseas listing (J. W. Lu et al., 2011). However, the same tests on board independence and CEO duality show no significant effect on return on assets (ROA), earnings before interest, tax and depreciation (EBITDA) and sales growth. Lu et al.’s (2011) results provide a key reference to the board-performance studies in overseas-listed Chinese firms.
2.8 Chapter Summary

This chapter first retrieves the concept of CG and leadership to introduce the principal-agency relationship in governance and the essential of leadership in board practices. Then, the five major theories on board leadership (institutional, contingency, resource-dependence, agency and stewardship theories) are explored by detailing their arguments and applications as the parent literature review to provide the theoretical ground for discussion in this study. On the one hand, the agency theory, together with the argument from the resource-dependence theory, supports the separation of the CEO and COB by two individuals in order to mitigate the agency problem and increase the leverage of firm linkage to external resources. On the other hand, the stewardship theory supports the board leadership of CEO duality, in which individuals are motivated by intrinsic rewards, organizational identification, opportunities for growth and satisfaction from the use of power to act in the interests of the shareholders, such that minimal independent expressions within the board for promoting a unified leadership is better for firms.

This chapter selects various studies of U.S. firms for the intermediate literature review on board leadership, as prior studies in corporate leadership are largely focused on U.S. companies (Kiel & Nicholson, 2003). There is a mix of evidentiary support for both CEO duality and non-duality in relation to firm performance, but more studies in U.S. firms find inclusive results (Krause et al., 2014) and there are new directions for board leadership studies, such as firm diversification from risk-taking propensity (Kim, 2013; Kim et al., 2008; Kim & Buchanan, 2008), the life-cycle theory (Harjoto & Jo, 2009), the former CEO as board chair (Quigley & Hambrick, 2012), the two-tier governance structure with the former CEO as board chair (Abels & Martelli, 2013), the process of CEO-board chair separation (Krause & Semadeni, 2013) and women in the dual role of CEO and chair (Muller-Kahle & Schiehll, 2013).

The immediate literature review on board leadership focuses on studies using evidence from various jurisdictions and markets in Asia, such as China (Peng et al., 2010; Peng et
al., 2007; Yu, 2008), Hong Kong (Lam & Lee, 2008), Malaysia (Abdullah, 2004; Ponnu, 2008) and Singapore (Mak & Kusnadi, 2005; Pei, 2012; Tan et al., 2001; Wan & Ong, 2005), as well as a sample of stock-listed firms from Indonesia, Malaysia, South Korea and Thailand (Ramdani & Van Witteloostuijn, 2010). The results from Asia are consistent with those from the U.S. indicating that there is also a mix of evidence to support both CEO duality and non-duality board leadership structures. However, the studies in Asian firms have arrived at more conditional results to support stewardship theory in the CEO duality-firm performance relationship than those in U.S. firms, and this relationship is found to be significantly positive in China (Van Essen et al., 2012).

After the three stages of literature review on board leadership studies, the issues of board structure, in particular the studies on board independence, board size and nomination committee, are discussed in Section 2.5. Furthermore, there is a general description of the corporate governance of mainland Chinese firms including the CG framework of listed Chinese firms, the overseas-listing of mainland Chinese firms, the board system and leadership with the concept of *guanxi* within Chinese firms in Section 2.6. The review then discusses CG and listed Chinese firms in Singapore in Section 2.7, including its legal and regulatory systems, the evolution of its CG codes and a description of the China-based firms listed on the SGX. In the literature review, there is a study on the post-listing performance of overseas-listed Chinese firms (J. W. Lu et al., 2011) which provides a key reference to the board-firm performance relationship of listed Chinese firms in Singapore. However, the sample by Lu et al. (2011), includes Chinese companies listed in Hong Kong, Singapore, U.S. (NYSE and NASDAQ) and U.K. from 1993 to 2006, is a mix of various sized SOEs and POEs and without accounting for the impacts from the 2008 GFC and the subsequent corporate scandals. Furthermore, mainland Chinese companies listed on the HKEx and NYSE are dominated by large SOEs, which are different in terms of their controls and ownership structures (Allen et al., 2005) from those smaller sized SOEs (annual earnings under 100 million CNY) and POEs publicly listed on the SGX.
In addition to the board leadership-firm performance relationship of listed Chinese firms in Singapore, there is also a research interest in the effect of company incorporation on this board-performance relationship, while over 40% of those listed Chinese firms in Singapore are actually incorporated outside of Singapore. Hence, within the literature reviewed in this chapter that examine the impact of board leadership on firm performance from the agency and the stewardship perspectives, there are limited discussions on whether the agency theory or the stewardship theory supports how a board leadership structure is related to the financial performance of listed Chinese firms in Singapore under the influence of firm incorporation. Although there are numbers of studies that examine the relationship between CEO duality and firm performance in the U.S. and Asia, no similar evidence from Singapore to support the hypothetical relationships between CEO duality, firm incorporation and financial performance has been forthcoming. Thus, there is a research gap leading to this study, within the agency and the stewardship frameworks, centered upon the implications of CEO duality on the financial performance of listed Chinese firms in Singapore.
Chapter 3  Research Methodology

3.1 Introduction

This chapter outlines the methodology used to examine the research questions by testing the associated research hypotheses. Section 3.2 states the research structure and process, and overviews the reporting framework of this study. Section 3.3 provides the development of research questions and the conceptual framework for deriving the corresponding hypotheses in association with the research questions. Section 3.4 describes the definition of selected variables and their measurements for testing the research hypotheses. Section 3.5 discusses the data sampling of this study with comparison to prior studies in the Asian context, followed by the presentation of board statistics in Singapore and issues on firm incorporation. Section 3.6 presents how the instrument for data collection is constructed, and the statistical tools for testing the hypotheses are outlined, before concluding this chapter in Section 3.7.
3.2 Research Structure and Process

The positivist research paradigm is adopted for this study. It is inductive in nature to apply scientific methods to the study of social reality, in which related theories generate the research hypotheses that are then to be tested, with the explanations of the universal laws governing the social reality by the principle of deductivism (Bryman & Bell, 2011). As social reality is independent from research investigation, this study is conducted with the observations and statistical methods based on empirical analysis by the deductive approach. A deductive research approach relies on a developed conceptual framework which is then tested by empirical evidence, such that particular instances are deducted from general inferences (Collis & Hussey, 2009). Thus, a conceptual framework of this research is developed and tested by empirical observations (data) to deduct the particular findings for discussion and comparison with the predictions and the findings from prior studies.

Based on the deductive research approach, quantitative methods are used to examine and predict the variables for testing the hypothesized relationships between the research variables. Accordingly, data are collected from secondary sources as observations for empirical analysis in this study. Since all data are collected from public domains, human ethics approval was not required for this study. In connection with the deductive approach, this study is synthesized into six steps according to the process of research (Creswell, 2008). Table 3.1 outlines the characteristics of quantitative research into a six-step process, as suggested by Creswell (2008), with the corresponding chapters illustrating the reporting structure of this study.
### Table 3.1: Research Process and Characteristics of Quantitative Research
(Adapted from Creswell, 2008, p. 52)

<table>
<thead>
<tr>
<th>Steps in the Process of Research</th>
<th>Characteristics of Quantitative Research on a Continuum</th>
<th>Chapter of this Dissertation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identifying a Research Problem</td>
<td>➢ Description and explanation oriented</td>
<td>Chapter 1</td>
</tr>
<tr>
<td>Reviewing the Literature</td>
<td>➢ Major role&lt;br&gt;➢ Justification for the research problem and specification for the need for the study</td>
<td>Chapter 2</td>
</tr>
<tr>
<td>Specifying a Purpose</td>
<td>➢ Specific and narrow&lt;br&gt;➢ Measurable and observable data</td>
<td>Chapter 3</td>
</tr>
<tr>
<td>Collecting Data</td>
<td>➢ Predetermined instruments&lt;br&gt;➢ Numerical data&lt;br&gt;➢ Large number of sampling</td>
<td>Chapter 3</td>
</tr>
<tr>
<td>Analyzing and Interpreting Data</td>
<td>➢ Statistical analysis&lt;br&gt;➢ Description of trends, comparison of groups and relationships among variables</td>
<td>Chapter 4</td>
</tr>
<tr>
<td>Reporting and Evaluating Research</td>
<td>➢ A comparison of results with predictions and past studies&lt;br&gt;➢ Standard and fixed&lt;br&gt;➢ Objective and unbiased</td>
<td>Chapter 5</td>
</tr>
</tbody>
</table>
3.3 Research Questions and Hypotheses

This section retrieves the primary research question and further extends it into four sub-questions in developing the four associated research hypotheses for this study.

3.3.1 Research Questions

The objective of this study is to examine the relationship between board leadership structure and firm performance that may also be contingent on board composition and other external environmental matters from the corporations. The separation of the roles of CEO and COB in the board leadership structure is widely recommended by individual scholars and CG codes. However, there are still two types of board leadership among the Chinese firms listed in Singapore: a board with two separate persons as CEO and COB (non-duality) and those with CEO duality – one person playing the roles of CEO and COB at the same time. The literature review in Chapter 2 suggests that there is a research gap between CEO duality and firm performance in the context of listed Chinese firms in Singapore. From the immediate literature review, there are prior studies in board leadership in various countries and markets in Asia, such as China (Peng et al., 2010; Peng et al., 2007; Yu, 2008), Hong Kong (Lam & Lee, 2008), Malaysia (Abdullah, 2004; Ponnu, 2008) and Singapore (Mak & Kusnadi, 2005; Pei, 2012; Tan et al., 2001; Wan & Ong, 2005). This is in addition to the HOMA on firms in various Asian countries (Van Essen et al., 2012); quantile regression on a sample of stock-listed firms from Indonesia, Malaysia, South Korea and Thailand (Ramdani & Van Witteloostuijn, 2010); and the post-listing performance of overseas-listed Chinese firms listed on the Hong Kong, Singapore, U.S. and U.K. stock markets (J. W. Lu et al., 2011). As reviewed in Chapter 2, there is a research gap between board leadership structure and the financial performance of listed Chinese firms in Singapore after the 2008 GFC. This gap leads to the general research question – *what are the implications of board leadership structure on the financial performance of publicly listed Chinese firms in Singapore?*
China-based companies listed on the SGX are commonly known as “S-chips”, whereas their shares are known as “S-shares”. S-chips are listed companies on the SGX with their business operations in China. Most of them are smaller sized SOEs and POEs, with their parent companies being located in China. S-chips are named after Sino-chips, where Sino originates from the Latin word Sinae referring to China. After the 2008 GFC, S-chips were covered by corporate scandals such as accounting fraud, embezzlement and forgery. These S-chip scandals were highly publicized by the mass media, which were triggered by the accounting fraud cases of Chinese firms listed in the U.S. and Hong Kong.

Most Chinese firms listed in Singapore are alleged to have poor CG and the lack of internal control, even though they follow the same listing rules of SGX as all other listed companies. Whether board leadership structure, in particular CEO duality, contributes to the underperformance of these S-chips listed on the SGX is of great interest to this study. In addition, there are also a large portion of listed Chinese firms that have been incorporated outside of Singapore. Thus, whether firm incorporation has any effect on the association between board leadership structure and the performance of Chinese firms is of another interest to this research. Integrating these research focuses with the primary research question creates the following research sub-questions.

1. Does CEO duality affect the proportion of independent directors on the board of directors in publicly listed Chinese firms in Singapore?

2. Does CEO duality affect the size of the board of directors in publicly listed Chinese firms in Singapore?

3. Does CEO duality affect the firm performance of publicly listed Chinese firms in Singapore?

4. Does firm incorporation affect the relationship between board leadership structure and the firm performance of publicly listed Chinese firms in Singapore?
3.3.2 Research Hypotheses

CEO non-duality and increasing board independence are widely recommended by CG codes in various countries and markets with an English legal origin, such as Singapore, U.K. and Hong Kong (CCG, 2012; FRC, 2012; HKEx, 2012). However, the institutional theory suggests that the compliance of CG codes in separating the roles of CEO and COB, and promoting board independence by increasing the proportion of independent directors, from the pressures of the governments and regulators, may not necessarily lead to higher firm value or increased firm competitiveness in the market (DiMaggio & Powell, 1983). Furthermore, when firms list in countries under the common law system while having their core business operations in China under the civil law system, the relationship between board leadership structure and firm performance may be different from those prior studies conducted in the U.S. and other Asian markets.

First, agency theory favors CEO non-duality. Executives serving as agents for their principals are individualistic, opportunistic and self-serving, such that a larger proportion of independent directors can dilute the tendencies by the managers to pursue these private interests (Ramdani & Van Witteloostuijn, 2010). Thus, a BOD with more independent directors can deliver managerial monitoring tasks more effectively for better firm performance (Eisenhardt, 1989; Fama, 1980; Fama & Jensen, 1983b; Jensen & Meckling, 1976). The dual role of CEO/COB has a tendency to dominate board decisions, producing less effective monitoring opportunities (Daily & Dalton, 1993; Jensen, 1993) by reducing board independence (Finkelstein & D'Aveni, 1994; Rhoades et al., 2001). Thus, it is hypothesized that there are fewer appointments of independent directors to BODs with CEO duality.

H1: CEO duality is negatively associated with the proportion of independent directors within the boards of directors of Chinese firms in Singapore.
Second, there are controversial arguments from both the agency theory and resource-dependence theory on board size. According to agency theory, board size has an inverse relationship to firm performance (Jensen, 1993; Yermack, 1996), as well as on those boards with a CEO duality leadership structure (Elsayed, 2011). In contrast, the resource-dependent theorists suggest that resources are crucial to a firm’s competitive advantage, and a larger board helps to provide comprehensive advice to CEO for dealing with environmental complexity (Klein, 1998; Pfeffer, 1972; Pfeffer & Salancik, 1978). Meanwhile, the empirical evidence from China shows that Chinese board size is primarily determined by firm complexity (C. H. Chen & Al-Najjar, 2012), and prior studies in Hong Kong and Singapore (Heaney, 2009) observe that the board size is relatively smaller with a higher proportion of executive directors on those boards with CEO duality. Although there is a mix of arguments on the relationship between CEO duality and board size, this study is hypothesized to examine whether the board sizes of Chinese firms in Singapore are in line with Heaney’s (2009) finding in Hong Kong and Singapore in which relatively smaller board size is associated with the CEO duality leadership structure.

H2: CEO duality is negatively associated with the size of the board of directors of Chinese firms in Singapore.

Third, among the studies on the relationships between board independence, CEO duality and firm performance, there is no definite conclusion to associate board independence and CEO duality with firm performance. It is suggested that board composition and board leadership has no consistent link to firm performance (Dalton et al., 1998). From other empirical studies, there is mixed evidence to support agency theory, stewardship theory, or against both theories on the relationships between board independence, CEO duality and firm performance. Agency theory favors the separation of the board leadership from the corporate leadership, as firms with non-duality structure consistently outperform those with CEO duality leading to excessive agency costs from the agency problem in making board decisions (Daily & Dalton, 1994a; Rechner & Dalton, 1991). In addition, the agency theorists also suggest that CEO duality increases the principle-
agency problem and, hence, reduces a firm’s profit as a consequence of agency costs as well as residual claims (Fama & Jensen, 1983a). It is in line with the resource-dependence theory which asserts that the firm gains benefits from critical resources (Pfeffer, 1972), as separating the leadership roles results in more diversified and enriched board structure with which to deal with firm complexity. Nevertheless, whether or not it is a workable approach to “comply or explain” (Arcot et al., 2010) the code provision to separate the roles of CEO and COB into two individuals, as stated in the CCG 2005, is still unclear as it relates to those listed Chinese firms in Singapore. Thus, the third hypothesis first proposes that CEO duality negatively affects firm performance and the associated hypothesis is:

H3a: From the perspective of agency theory, CEO duality is negatively associated with the financial performance of Chinese firms in Singapore.

Conversely, the stewardship theorists argue that CEO duality and a majority of inside directors helps to enhance the board leadership for superior firm performance (Muth & Donaldson, 1998). Furthermore, firms benefit from the unity of command and direction from CEO duality (Donaldson & Davis, 1991). It is aligned with the shareholders’ interests that the costs of separating the CEO and COB are larger than the benefits from CEO non-duality to firm performance (Brickley et al., 1997). These arguments are consistent with the contingency theory that the costs and benefits of CEO duality are affected by various internal and external factors (Finkelstein & D'Aveni, 1994). This is favored by recent studies in mainland Chinese firms (Peng et al., 2010; Peng et al., 2007; Yu, 2008). Peng et al. (2007) and Yu (2008) both suggest, with supporting evidence, that CEO duality has a positive relationship with firm performance; whereas Peng et al. (2010) suggest CEO duality negatively moderates the relationship between organizational slack and firm performance in Chinese SOEs, but positively moderates the relationship in POEs. Thus, it is further hypothesized that CEO duality positively affects firm performance, and the associated hypothesis is:
H3b: From the perspective of stewardship theory, CEO duality is positively associated with the financial performance of Chinese firms in Singapore.

Fourth, it is of special interest to examine the effect of Singapore incorporation in comparison with the non-Singapore incorporated Chinese firms on the relationship between CEO duality and firm performance. China-based firms are listed in Singapore which has an English-common-law system, but operate their businesses in China which has a German-civil-law system (La Porta et al., 2008). The law enforcement is more likely to be stronger in the common law jurisdictions with higher investor protection (La Porta, Lopez-de-Silanes, & Shleifer, 1998) than those countries with the civil law. However, firms with good CG practices have limited reliance on the legal system to resolve their governance conflicts (Klapper & Love, 2004), and vice versa for those firms with relatively weak governance systems. From the regulatory cost theories, the decision of incorporation is primarily determined by a firm’s incentive arising from the capital requirements and setup costs (Becht, Mayer, & Wagner, 2008). The evidence from the state of Delaware shows that tax incentive is another reason for deciding the location of a firm’s incorporation. Delaware is known as a domestic tax haven of U.S., where the state provides an exemption from its corporate income tax. Although Delaware incorporation has potential tax benefits to firms, it does not support the agency theory that favors managers at the expense of the shareholders (Xie, 2013). Nevertheless, those tax benefits from Delaware incorporation are diminishing from the limiting multistate tax avoidance strategy by the required combined reporting from other U.S. states (Dyreng, Lindsey, & Thornock, 2013). Similarly, Chinese firms with operations in China are utilizing tax strategies in their firm incorporation decisions, such as Singapore incorporation or to incorporate their firms in other overseas territories. Hence, based on the Delaware evidence, the fourth hypothesis is developed to examine whether firm incorporation has a positive effect on the relationship between CEO duality and firm performance.

H4: Firm incorporation has a positive moderating effect on the relationship between CEO duality and the financial performance of Chinese firms in Singapore.
Thus, the four research hypotheses correspond to the four research sub-questions are tested empirically with the observations from listed Chinese firms in Singapore. Figure 3.1 summarizes the theoretical framework of this study.

**Figure 3.1: Theoretical Framework**

![Diagram showing the theoretical framework of the study](image)
3.4 Variables Definition and Measurement

This section presents the variables and measurement that are used for this study. The first sub-section describes the selection of dependent variables, followed by the description of independent variables for testing the hypothesized relationships. In the last sub-section, there is a summary of all dependent and independent variables with the proposed regression models for empirical testing and analysis.

3.4.1 Dependent Variables

Return on asset (ROA), return on equity (ROE) and return on capital employed (ROCE) have been selected to be the measurement of firm performance. ROA (Lam & Lee, 2008; Peng et al., 2010; Ramdani & Van Witteloostuijn, 2010), ROE (Lam & Lee, 2008; Peng et al., 2007) and ROCE (Lam & Lee, 2008) are widely used in prior empirical studies in board leadership. In addition, the annual rate of change (△) in ROA, ROE and ROCE, and the annual rate of return on stock (R_t) have also been selected to countermeasure firms’ financial performance. Since most S-chips underperformed after the 2008 GFC, there has been a great practical interest in their annual rate of change in accounting returns and their return on stock for indications of financial performance improvement. For instance, the annual rate of change in ROA (△ROA; the same treatment for △ROE and △ROCE) and the annual rate of return on stock (R_t) are derived by the following equations:

\[
\triangle \text{ROA} \quad = \quad \frac{(\text{ROA}_t - \text{ROA}_{t-1})}{\text{ROA}_{t-1}}
\]

\[
R_t \quad = \quad \frac{(\text{RI}_t - \text{RI}_{t-1})}{\text{RI}_{t-1}} \quad \text{where} \quad \text{RI} = \text{Total Return Index}
\]

Financial data for dependent variables have been obtained from Datastream and Worldscope Database of Thomson Reuters, which have then been converted into
Singaporean dollars (SGD) before inputting into SPSS for analysis. Table 3.2 contains the dependent variables with their data source and corresponding data codes.

**Table 3.2: Data Source and Data Codes of Dependent Variables**

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Description</th>
<th>Data Source</th>
<th>Worldscope Data Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>Return on asset</td>
<td>Datastream</td>
<td>WC08326</td>
</tr>
<tr>
<td>ROE</td>
<td>Return on equity</td>
<td>Datastream</td>
<td>WC08301</td>
</tr>
<tr>
<td>ROCE</td>
<td>Return on capital employed (invested capital)</td>
<td>Datastream</td>
<td>WC08376</td>
</tr>
<tr>
<td>RI</td>
<td>Total return index</td>
<td>Datastream</td>
<td>RI</td>
</tr>
<tr>
<td>△</td>
<td>Annual rate of change in ROA, ROE and ROCE</td>
<td>Derived from ROA, ROE and ROCE</td>
<td>N/A</td>
</tr>
<tr>
<td>R_t</td>
<td>Annual rate of return on stock</td>
<td>Derived from RI</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Note: N/A = Not Applicable.

### 3.4.2 Independent Variables

Besides CEO duality, proportion of independent directors, board size and firm incorporation, there are other endogenous factors such as board committee, firm history, liquidity, leverage and firm size (Lam & Lee, 2008, 2012) which, in line with the contingency theory, also affect the association between CEO duality and firm performance. These endogenous factors are included as control variables for isolating the partial effects of CEO duality on the financial performance of firms. In total, there are nine independent variables with individual characteristics, as follows.
i. Board Leadership Structure

Board leadership structure is presented by CEO duality (CEOD) and defined as the practice of a single individual serving as both CEO and COB at the same time (Krause et al., 2014), which is a dichotomous variable and denoted by 1 for duality and 0 for non-duality. The findings from prior studies in the U.S. are inconclusive as to whether CEO duality has no effect on, or is positively or negatively associated with firm performance (refer to the Appendix enclosed with Table 1 of Krause et al., 2014, p. 259-260).

ii. Board Independence

Board independence is denoted by the proportion of independent directors on the board (PIND) which is the number of independent directors divided by the total number of directors on a BOD. Meanwhile, a BOD with more independent directors can also deliver managerial monitoring tasks more effectively for better firm performance (Eisenhardt, 1989; Fama, 1980; Fama & Jensen, 1983b; Jensen & Meckling, 1976). Thus, it is expected that PIND is positively related to firm performance.

iii. Board Characteristics

Other board characteristics are represented by the natural logarithm of board size (L_BSIZE) and another dichotomous variable of the nomination committee (NCOM).

From the perspective of agency theory, board size has an inverse association with firm performance (Jensen, 1993; Yermack, 1996). Increasing the board size causes a deterioration in board communication and monitoring that leads to lower firm performance (Jensen, 1993). Hence, it is expected that L_BSIZE is negatively related to firm performance.
Although all listed firms in Singapore during the research period have formed audit and remuneration committees on their boards, there is still a small fraction of listed Chinese firms that have not formed nomination committees within their BODs, as is required by the CCG 2005. On the one hand, agency theory explains the link between the existence of a nomination committee and board independence to strengthen the board control and monitoring mechanisms in mitigating the effect of CEO duality and the number of insider directors on the BOD (Ruigrok et al., 2006). On the other hand, resource-dependence theory favors diversity within the boards to improve firm performance (Pfeffer, 1972; Pfeffer & Salancik, 1978), and the existence of a nomination committee may also promote a higher degree of nationality diversity (Ruigrok et al., 2006). Thus, it is expected that NCOM, which is denoted by 1 for existence and 0 otherwise, has a positive relationship with firm performance (Lam & Lee, 2008, 2012).

iv. Firm Characteristics

Firm history (HIST) is represented by the natural logarithm of firm history (L_HIST). It is the number of years from firm incorporation up to the end of the research period, that is, HIST = 2011 – the year of firm incorporation. Firms with longer incorporation histories may have a wider ownership base (Yermack, 1996), which may influence their CG practices in affecting their firm performance. Hence, it is expected that a firm’s performance is also contingent on its firm development history (Yu & Yang, 2010), and inversely related to this control variable.

Firm incorporation (INCORP) is a categorical variable denoted by 1 for Singapore incorporation and 0 for non-Singapore incorporation. While most of the listed Chinese firms are incorporated in Singapore, over 40% of them choose to incorporate their firms in some overseas territories, such as Bermuda, British Virgin Islands and the Cayman Islands. Chinese firms with operations in China are likely utilizing tax strategy into their incorporation decisions. Although incorporation decisions have potential tax benefits to firms, this does not necessarily support the agency theory which favors managers at the
expense of shareholders (Xie, 2013). INCORP is used together with the product of INCORP and CEO (INCORP_CEOD) to test whether a firm’s location of incorporation has any moderating effects (Baron & Kenny, 1986) on the relationship between CEO duality and firm performance.

Firm size is measured by the natural logarithm of market capitalization (L_MKTC). Although firm size can also be represented by a firm’s total assets, market capitalization or net sales for the year (Lam & Lee, 2008), this study has only selected market capitalization which is in line with the SGX market valuation (SGX, 2011) and the selection of Chinese firms by the FTSE ST China Index (FTSE, 2012). L_MKTC is included as a control variable, and it is expected to have a positive relationship with firm performance (Yermack, 1996).

v. Firm Liquidity and Leverage

The liquidity and leverage of firms are tested by means of current ratio (CR) and debt-to-equity ratio (DE) respectively. Debt financing is another common business decision that may introduce another external monitoring mechanism by the debt holders for protecting their financial positions in the loaning firms (C. J. Chen & Jaggi, 2000). A firm’s liquidity and leverage indicators are usually included in the control variables to mitigate the partial effects of CEO duality on firm performance (Gul & Leung, 2004; Lam & Lee, 2008, 2012). CR and DE are expected to be positively related to firm performance. They are both collected from Datastream and defined by Worldscope as follows:

\[
CR = \frac{\text{Total Current Assets}}{\text{Total Current Liabilities}}
\]

\[
DE = \frac{\text{Long Term Debt}}{\text{Common Equity}}
\]

Table 3.3 provides the data sources and data codes of independent variables, with their predicted relationships with firm performance.
Table 3.3: Data Sources and Data Codes of Independent Variables and Their Predicted Relationship with Firm Performance

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Description</th>
<th>Data Source</th>
<th>Worldscope Data Code</th>
<th>Predicted Relationship with Firm Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEO Duality</td>
<td>Annual Reports</td>
<td>N/A</td>
<td>Negative (H3a) / Positive (H3b)</td>
<td></td>
</tr>
<tr>
<td>PIND</td>
<td>Proportion of independent directors Annual Reports</td>
<td>N/A</td>
<td>Positive</td>
<td></td>
</tr>
<tr>
<td>BSIZE</td>
<td>Board size</td>
<td>Annual Reports</td>
<td>N/A</td>
<td>Negative</td>
</tr>
<tr>
<td>NCOM</td>
<td>Nomination committee</td>
<td>Annual Reports</td>
<td>N/A</td>
<td>Positive</td>
</tr>
<tr>
<td>HIST</td>
<td>Firm history</td>
<td>Singapore Exchange</td>
<td>N/A</td>
<td>Negative</td>
</tr>
<tr>
<td>INCORP</td>
<td>Firm incorporation</td>
<td>Singapore Exchange</td>
<td>N/A</td>
<td>Moderation</td>
</tr>
<tr>
<td>MKCAP</td>
<td>Market capitalization</td>
<td>Datastream WC08001</td>
<td>Positive</td>
<td></td>
</tr>
<tr>
<td>CR</td>
<td>Current ratio</td>
<td>Datastream WC08106</td>
<td>Positive</td>
<td></td>
</tr>
<tr>
<td>DE</td>
<td>Debt-to-Equity ratio</td>
<td>Datastream WC08226</td>
<td>Positive</td>
<td></td>
</tr>
</tbody>
</table>

Note: N/A = Not Applicable; except that those financial data with the Worldscope data code are collected from Datastream, individual annual reports and other firm data are collected from the Singapore Exchange website (http://www.sgx.com).
3.4.3 Regression Model and Conceptual Framework

The following regression models are formulated for the examination of the relationship between CEO duality and firm performance with the control variables and the hypothesized moderating effect from firm incorporation.

\[ Y_j = \beta_0 + \beta_1 \text{CEOD} + \beta_2 \text{PIND} + \beta_3 \text{LFSIZE} + \beta_4 \text{NCOM} + \beta_5 \text{LHIST} \]

\[ + \beta_6 \text{CR} + \beta_7 \text{DE} + \beta_8 \text{LMKCAP} + \beta_9 \text{INCORP} \]

\[ + \beta_{10} \text{INCORP_CEOD} + \epsilon_j \]

Where \( Y_j \) represents alternative measures of performance for firm \( j \) (ROA, ROE, ROCE, \( \Delta \text{ROA} \), \( \Delta \text{ROE} \), \( \Delta \text{ROCE} \), or \( R_t \)), \( \beta_0 \) is the constant term, \( \beta_i \) represents the slope coefficients \( (i = 1, 2, \ldots, 10) \) and \( \epsilon_j \) is the random error term.

Figure 3.2 conceptualizes the factors affecting firm performance in the context of this study.
Figure 3.2: Conceptual Framework

Board Leadership Structure

- Board Independence
- Board Size
- Nomination Committee
- Firm History

Firm Performance

- Firm Incorporation
- Firm Liquidity
- Firm Leverage
- Firm Size
3.5 Data Sampling

This sub-section first discusses the research sample in this study with board statistics from prior studies of listed companies in Singapore (Mak & Kusnadi, 2005; Pei, 2012). The second sub-section focuses on the statistics of firm incorporation within the study sample in order to distinguish Chinese firms between Singapore incorporation and non-Singapore incorporation.

3.5.1 Research Sample and Board Statistics from Prior Studies

According to the Statistical Reports issued by the SGX, on average there were 778 companies listed on the SGX Mainboard and Catalist in 2011, of which there were, on average, 152 listed Chinese companies or around 19.5% of all SGX listed companies that were S-chips (companies with principle place of business outside Singapore and having their business operations in mainland China). Meanwhile, the FTSE ST China index is based on the underlying constituents of the FTSE ST All-share Index that covers the performance of SGX-listed firms having a majority of their sales revenue derived from or operating assets located in mainland China. The FTSE ST China Top index is a subset of FTSE ST China index which focuses on the performance of the 20 largest Chinese listed companies on the SGX Mainboard by full market capitalization (FTSE, 2013). Figure 3.3 provides the 5-year market performance of FTSE ST All-Share, FTSE ST China Top and FTSE ST China indices as at 31 December 2012 (FTSE, 2012), in which Chinese firms included in the FTSE ST China index continuously underperformed other firms covered by the FTSE ST All-Share index on the SGX.
Figure 3.3: FTSE ST China Index 5-Year Performance
(Source: FTSE, 2012, p. 1)
As is also shown in Figure 3.3, there was a bounce back of market performance promptly after the 2008 GFC, followed by a performance decline towards the end of 2011 when there was another economic downturn. Thus, the rationale of this study is to take firm samples from the SGX Mainboard between 2009 and 2011 in order to avoid the influence of market volatility on data from these two severe economic situations in Singapore that originated in the U.S. and Europe. Table 3.4 illustrates the derivation of the study sample starting from the number of Chinese firms listed on the SGX as of 31 December 2009.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chinese firms listed on SGX as of 31 December 2009</strong></td>
<td>156</td>
</tr>
<tr>
<td>Less</td>
<td>Chinese firms listed on the SGX Catalist</td>
</tr>
<tr>
<td></td>
<td><strong>Chinese firms listed on the SGX Mainboard</strong></td>
</tr>
<tr>
<td>Less</td>
<td>Chinese firms delisted after December 2009</td>
</tr>
<tr>
<td></td>
<td>Chinese firms not listed throughout 2009 – 2011</td>
</tr>
<tr>
<td><strong>Sample of this study</strong></td>
<td></td>
</tr>
</tbody>
</table>

This study has collected the three-year data, from secondary sources, of Chinese firms listed on the SGX Mainboard between 2009 and 2011. With a total of 315 firm-year observations (105 firms x 3 years), the sample size of this study is comparable to the prior studies on CEO duality and firm performance from other Asian markets (Lam & Lee, 2008; Ramdani & Van Witteloostuijn, 2010), and the degree of freedom for conducting the regression analysis is sufficient when applied to the given sample (Krejcie & Morgan, 1970).

Meanwhile, the board statistics from prior studies are also compared in this study. Table 3.5 offers the statistics of board structure from a sample of SGX-listed companies
between 1999 and 2000 (Mak & Kusnadi, 2005). The average board size was around 7, with a range from 4 to 14 members within the BODs. For the board leadership, 20% of the sample firms adopted CEO duality structure whereby their CEO was also COB. The average proportion of independent directors on BOD was 0.36, which was greater than the majority of board independence indicator at 0.33, with independent directors making up higher than the minimum required proportion of independent directors on the board by the proposed CG code (CCG, 2001) at that time. In summary, the boards of SGX-listed firms during 1999 – 2000 were relatively smaller than those in the U.S., with dual leadership structure and sufficient independence, which were considered effective (Jensen, 1993).

| Table 3.5: Board Structure of SGX-Listed Companies (n = 230, 1999 – 2000) |
|-----------------------------|--------|--------|--------|--------|--------|
|                             | Minimum | Maximum | Mean   | Median | Standard Deviation |
| Board Size                  | 4       | 14      | 7.27   | 7      | 2       |
| Board Chair*                | 0       | 1       | 0.2    | -      | -       |
| Proportion of Independent Directors | 0.15   | 0.8     | 0.36   | 0.33   | 0.12    |

*Dummy variable – 1 if the CEO is also COB, 0 otherwise.

Nevertheless, another study by Pei (2012) took firm sample from the SGX Mainboard from 2002 to 2003, with the board statistics being highlighted in Table 3.6. The study by Pei (2012) took sample after the SGX adopted a new CG code (CCG, 2001) in April 2001, compliance with which became effective from 1 January 2003. In summary, the firm sample after the implementation of CCG 2001 shows that the average board size was relatively the same between 7.27 and 7.31, as found from these two studies. However, both the means of CEO duality and board independence increased from 0.2 to 0.31 and
from 0.36 to 0.429, respectively. These findings indicate that there was a tendency of listed firms in Singapore to combine the roles of CEO and COB to lead their BODs after the CCG 2001 took effect, and, at the same time, firms also increased their board independence to monitor how they coped with this change of CEO duality leadership structure.

**Table 3.6: Board Structure of SGX-Listed Companies (n = 390, 2002 – 2003)**

(Statistics from Table 4.3 of Pei, 2012, p. 104)

<table>
<thead>
<tr>
<th>Board Structure</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Board Size</td>
<td>7.31</td>
<td>2.142</td>
</tr>
<tr>
<td>Board Chair*</td>
<td>0.310</td>
<td>0.463</td>
</tr>
<tr>
<td>Percentage of Outside Directors</td>
<td>0.429</td>
<td>0.316</td>
</tr>
</tbody>
</table>

*Dummy variable – 1 if the CEO is also COB, 0 otherwise.

This study collects board data from Chinese firms listed on the SGX to examine the changes in board characteristics from the evolution of the Singapore CG code between CCG 2001 and CCG 2005, in order to compare these with prior studies that also with firm samples from SGX-listed companies.

### 3.5.2 Singapore and Non-Singapore Incorporation

Among the 105 Chinese firms in the study sample, 59 firms or 56.2% of them are incorporated in Singapore, of which around 78% of those 46 non-Singapore firms in the sample are incorporated in Bermuda. Table 3.7 provides the firm incorporation statistics and Singapore tax treaties with other countries.
Table 3.7: Firm Incorporation and Tax Treaty with Singapore

<table>
<thead>
<tr>
<th>Firm Incorporation</th>
<th>Number of Firms</th>
<th>Percentage in Sample</th>
<th>Tax Treaty with Singapore*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bermuda</td>
<td>36</td>
<td>Non-Singapore</td>
<td>C</td>
</tr>
<tr>
<td>British Virgin Islands</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cayman Islands</td>
<td>7</td>
<td>Incorporated Firms</td>
<td>43.8%</td>
</tr>
<tr>
<td>China</td>
<td>1</td>
<td></td>
<td>A</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>1</td>
<td></td>
<td>B</td>
</tr>
<tr>
<td>Singapore</td>
<td>59</td>
<td>56.2%</td>
<td>N.A.</td>
</tr>
<tr>
<td>Total:</td>
<td>105</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

*Source: Inland Revenue Authority of Singapore (http://www.iras.gov.sg)
Note: A = Comprehensive Avoidance of Double Taxation Agreements; B = Limited Treaties; C = Exchange of Information Agreements; and N.A. = Not Applicable.
In summary, there are various factors motivating and influencing firm incorporation decisions, whether they are matters of legal and regulatory environment or international taxation concerns. The interest of this study is in investigating the hypothesized effects from firm incorporation (Singapore and non-Singapore incorporation) on the relationship between board leadership structure and firm performance. The company incorporation-related international tax treaty information is presented in this sub-section. It provides a comprehensive picture of the international environment for the consideration of China-based companies in relation to their firm incorporation preferences.

3.6 Data Collection and Analysis

This section describes the collection of data from secondary sources, the subsequent data treatment and the testing rationale for empirical analysis in Chapter 4.

3.6.1 Data Collection

Board information for listed Chinese firms is collected from their annual reports, which can be obtained from the SGX website at http://www.sgx.com through the public domain access. Board information collected from the corporate annual reports includes CEO duality, proportion of independent directors on BODs, board size and the existence of nomination committees. Firm information can also be collected from the SGX database at its website via the public domain access. Firm information collection from the SGX website includes the date and location of firm incorporation.

In order to avoid errors from transcription, all board and firm data entries from the annual reports and the SGX website are counterchecked by a third person who does not participate in the data collection and entry processes. According to the SGX Mainboard Rule 710, a SGX Mainboard-listed firm must describe its CG practices in its annual reports with specific reference to the principles of the Code (the CCG issued by the MAS),
and must disclose such deviations from any guideline of the Code together with appropriate explanations in its annual report (SGX, 2013). Hence, the accuracy and integrity of board and firm information is ensured by the SGX Mainboard rules, and thus the secondary data collected from SGX for this study should be free from sampling bias.

Financial data are obtained from Datastream and Worldscope Database of Thomson Reuters, which are then converted into SGD before data entries for analysis. The accuracy of financial data from Thomson Reuters is relatively high (Lam & Lee, 2008), and data reliability is enhanced by excluding limited numbers of extreme outliers from the sample. The original set of data collected for this study has become the basis for results verification and future references. Board and firm data collected from secondary sources has been transcribed into spreadsheets and saved electronically for record keeping. As all data are collected from public domains, human ethics approval was not required for this study.

3.6.2 Data Treatment and Analysis

This study uses OLS regression models for empirical analysis. This sub-section describes the data processing and empirical analysis in the following four steps.

i. Data Processing – In order to ensure the normality for all dependent variables (ROA, ROE, ROCE, \(\Delta\)ROA, \(\Delta\)ROE, \(\Delta\)ROCE and \(R_t\)), a small fraction of the extreme outliers from each of the dependent variable sets are excluded to raise their normality up to the suggested level. The assumption of normality is ensured by the Kolmogorov-Smirnov statistic with a significance level of 0.05 (Coakes & Ong, 2011).
ii. Descriptive Statistics – Chinese firms in the study sample are divided into three groups: the full sample, Singapore incorporated and non-Singapore incorporated firms. Board and firm data are divided by scale variables and categorical variables. The descriptive analysis of scale variables are presented by mean, median, standard deviation, skewness and kurtosis; whereas the descriptive statistics of categorical and other company data are presented by their means.

iii. T-test – Independent-groups t-tests, based on the homogeneity assumption, are used to examine whether there are significant difference of means of the proportion of independent directors and board size between BODs with CEO duality and non-duality; and between the performance of firms with Singapore incorporation and non-Singapore incorporation within a particular data set: the full sample, firms with CEO duality and non-duality. The t-test is applied as the statistical tool for testing hypotheses H1 and H2.

iv. Regression Analysis – Multiple regression analysis is used to test whether the independent variables are affecting or predicting firm performance for the three sets of data: the full sample, Singapore incorporated and non-Singapore incorporated firms. In addition, the firm incorporation variables are included in another regression model to test the moderating effect from firm incorporation (INCORP). The moderating effect of INCORP on the association between CEO duality and the financial performance of firms is measured by comparing the results from excluding and including INCORP and its interaction variable (INCORP_CEOD) for regressions (Baron & Kenny, 1986). Multiple regression analysis is applied as the statistical tool for testing hypotheses H3 and H4.
3.7 Chapter Summary

This chapter first describes the research design and process that covers the rationale from the positivist research paradigm for the deductive approach adopted by this study. The primary research question is then retrieved from the research gap, as discussed in Chapter 2, to further divide it into four research sub-questions. Four research hypotheses are then developed corresponding to the four research sub-questions. Dependent and independent variables are introduced individually to construct the regression models and the conceptual framework of this research. With 105 Chinese firms listed on the SGX Mainboard during the research period between 2009 and 2011, 315 firm-year data are observed and divided into three data sets: the full sample of Chinese firms, Singapore incorporated and non-Singapore incorporated firms. In addition to data sampling, the board statistics from prior studies in Singapore (Mak & Kusnadi, 2005; Pei, 2012), and issues related to firm incorporation, are presented and discussed for comparison and to enrich the discussion of firm incorporation preferences. Lastly, data collection and analysis methods are introduced in this chapter. Data collection from secondary sources is discussed, where data accuracy and reliability are ensured with avoidance of errors from transcription. Data analysis is synthesized into four steps with the selection of statistical tools for individual hypothesis testing.
Chapter 4  Data Analysis

4.1 Introduction

This chapter describes the empirical setting and discusses the results generated by the SPSS. Secondary data from 105 Chinese companies listed on the SGX Mainboard between 2009 and 2011 are used for the empirical analysis of this study. There are six sections in this chapter. The first section provides an outline of this chapter, followed by a description of the empirical framework, the regression model and the variables of this research in the second section. Section 4.3 details the data processing and the descriptive statistics with the verification of data prior to testing. The subsequent two sections cover the empirical analysis by t-tests and multiple regressions for presenting the key findings to support the testing of the research hypotheses, before concluding this chapter with a chapter summary in Section 4.6.
4.2 Empirical Framework, Regression Model and Variables

The hypothesized relationships between CEO duality and firm performance with the potential moderating effect from firm incorporation and the selected control variables of the proportion of independent directors (PIND), board size (L_BSIZE), the existence of nomination committee (NCOM), firm history (L_HIST), credit ratio (CR), debt-to-equity ratio (DE) and market capitalization (L_MKCAP) are schematized in the empirical framework in Figure 4.1.

Figure 4.1: Empirical Framework

A regression model is employed to investigate the potential effect of CEO duality on the financial performance of firms. While the firm incorporation of Chinese companies is hypothesized as a moderator of CEO duality, an independent variable (INCORP) and a dummy interaction variable (INCORP_CEOD) are introduced in addition to CEO duality
and the other seven control variables in the empirical framework. These two additional variables are used to interact with the variable of CEO duality (CEOD) to examine if the association between CEO duality and the financial performance of firms is affected by firm incorporation. Together with other control variables which provide the isolation of the partial effect from CEO duality on the financial performance of firms, a multiple regression model is developed to explain the potential dependence of the firm performance of listed Chinese firms in Singapore for testing the hypothesized relationships between the independent variables in this analysis.

\[
Y_j = \beta_0 + \beta_1 \text{CEOD} + \beta_2 \text{PIND} + \beta_3 \text{L_BSIZE} + \beta_4 \text{NCOM} + \beta_5 \text{L_HIST} \\
\quad + \beta_6 \text{CR} + \beta_7 \text{DE} + \beta_8 \text{L_MKCAP} + \beta_9 \text{INCORP} \\
\quad + \beta_{10} \text{INCORP_CEOD} + \epsilon_j
\]

Where \( Y_j \) represents alternative measures of performance for firm \( j \) (ROA, ROE, ROCE, \( \triangle \) ROA, \( \triangle \) ROE, \( \triangle \) ROCE, or \( R_t \)), \( \beta_0 \) is the constant term, \( \beta_i \) represents the slope coefficients (\( i = 1, 2, ..., 10 \)) and \( \epsilon_j \) is the random error term.

As discussed in Chapter 3, the coefficients \( \beta_2, \beta_4, \beta_6, \beta_7 \) and \( \beta_8 \) are predicted to have a positive effect on the regression, whereas \( \beta_3 \) and \( \beta_5 \) are predicted to have a negative effect. The moderating effect is tested by including INCORP and INCORP_CEOD in the regression equation for analysis (Baron & Kenny, 1986), and the examination of the moderating effect (Sharma, Durand, & Gur-Arie, 1981) is suggested as follows:

i. INCORP is not a moderator if \( \beta_9 \neq 0 \) and \( \beta_{10} = 0 \)

ii. INCORP is a pure moderator if \( \beta_9 = 0 \) and \( \beta_{10} \neq 0 \)

iii. INCORP is a quasi-moderator if \( \beta_9 \neq 0 \) and \( \beta_{10} \neq 0 \)

Table 4.1 provides the definition of the dependent and independent variables that are used in this empirical analysis.
Table 4.1: Definition of Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent Variables</strong></td>
<td></td>
</tr>
<tr>
<td>ROA</td>
<td>Return on asset</td>
</tr>
<tr>
<td>ROE</td>
<td>Return on equity</td>
</tr>
<tr>
<td>ROCE</td>
<td>Return on capital employed</td>
</tr>
<tr>
<td>△ROA</td>
<td>Annual rate of change in ROA</td>
</tr>
<tr>
<td>△ROE</td>
<td>Annual rate of change in ROE</td>
</tr>
<tr>
<td>△ROCE</td>
<td>Annual rate of change in ROCE</td>
</tr>
<tr>
<td>( R_t )</td>
<td>Annual rate of return on stock</td>
</tr>
<tr>
<td><strong>Independent Variables</strong></td>
<td></td>
</tr>
<tr>
<td>CEOD</td>
<td>CEO duality (1 for duality, 0 for non-duality)</td>
</tr>
<tr>
<td>PIND</td>
<td>Proportion of independent directors (the number of independent directors divided by the total number of directors of a board of directors)</td>
</tr>
<tr>
<td>L_BSIZE</td>
<td>Natural logarithm of board size</td>
</tr>
<tr>
<td>NCOM</td>
<td>Nomination committee (1 for existence, 0 otherwise)</td>
</tr>
<tr>
<td>L_HIST</td>
<td>Natural logarithm of firm history (2011 minus the year of firm incorporation)</td>
</tr>
<tr>
<td>INCORP</td>
<td>Firm incorporation (1 for Singapore incorporation, 0 for non-Singapore incorporation)</td>
</tr>
<tr>
<td>INCORP_CEOD</td>
<td>Product of INCORP and CEOD</td>
</tr>
<tr>
<td>CR</td>
<td>Current ratio (total current assets over total current liabilities)</td>
</tr>
<tr>
<td>DE</td>
<td>Debt-to-equity ratio (long-term debt over common equity)</td>
</tr>
<tr>
<td>L_MKCAP</td>
<td>Natural logarithm of market capitalization</td>
</tr>
</tbody>
</table>
4.3 Data Verification and Descriptive Statistics

This section retrieves the data sources, as described in Chapter 3. The statistical properties of data are examined for the full sample and two sub-samples of Chinese firms to verify the assumptions underpinning the uses of t-tests for examining the differences of means and multiple regressions, in order to test the empirical model for analysis. After the data processing and verification, the descriptive statistics of the full sample and two sub-samples of Chinese firms are presented in the last sub-section for comparison.

4.3.1 Data Sources

Firms having their business operations or being domiciled in mainland China represents around 19% of the total companies listed on the SGX, as of December 2011 (SGX, 2011). Their financial data are obtained from Datastream and Worldscope Database of Thomson Reuters, whereas their board information is obtained from individual corporate annual reports (105 companies over the three year period between 2009 and 2011), as collected from the SGX database at http://www.sgx.com. There are 31 companies that have changed their registered name since 2009, and the data of those companies are matched with the data of their former companies under their previous company names. Firm history (date of incorporation) and firm incorporation (location of incorporation) are also obtained from the SGX database via its website at http://www.sgx.com.

The sample of this study includes 105 Chinese companies listed on the SGX Mainboard. By excluding nine companies with incomplete data during the research period, there are, in total, 288 firm-year (105 – 9 = 96 companies over the three-year period between 2009 and 2011) time-series data in order to verify their statistical assumptions for data analysis.
4.3.2 Data Processing and Verification

As defined in Table 4.1, there are three categorical variables in this study, CEO duality (CEOD), the existence of nomination committees (NCOM) and firm incorporation (INCORP). These three categorical variables are separated from the scale variables for treatment. Meanwhile, the scale variables, including board size (BSIZE), firm history (HIST) and market capitalization (MKCAP), are transformed to natural logs in order to mitigate the influence from their outliers.

The assumption of normality is crucial for all dependent variables which are examined by the Kolmogorov-Smirnov statistic. The assumption of normality is assumed if the Kolmogorov-Smirnov significance level is greater than 0.05 (Coakes & Ong, 2011), that is, a 5% significance level for each of the dependent variables is required for the full sample and the two sub-samples. While Chinese SOEs rely more on accounting performance to evaluate CEO performance based on earnings of their subsidiaries that are to be included in the consolidated accounts of the parent SOEs (Conyon & He, 2014), accounting-based indicators are more appropriate as the firm performance measure for this study. As Levene’s test for the equality of variance is rejected all dependent variables for the pilot tests, this study follows the board leadership literature (Ramdani & Van Witteloostuijn, 2010) to use an accounting-based indicator ROA as the firm performance measurement and the annual rate of change in ROA ($\Delta$ROA) was finally selected as the performance indicator for analysis in this study. ROA is one of the board performance evaluation criteria specified by the CCG 2005 and a preferred operating performance measure, because it is not affected by leverage, extraordinary items and other discretionrary items (Core, Guay, & Rusticus, 2006). Owing to the unique accounting nature of $\Delta$ROA, it is also used in other firm performance studies involving Chinese firms listed on the HKEx in a similar context to this study (Ke, Rui, & Yu, 2012). Nevertheless, $\Delta$ROA is an appropriate choice to better describe a firm’s actual recovery situation through the annualized rate of change instead of the real operating performance of ROA in order to reflect a firm’s actual potential, so as to improve its operating
performance during the research period after the 2008 GFC. In the final full sample of firms, 72 firm-year observations have been removed in order to meet the normality requirement for the dependent variable $△$ROA. The Kolmogorov-Smirnov statistic significance level has been maintained at 0.200 (the lower bound of the true significance) for the full sample of Chinese firms as well as the two sub-samples of firms with Singapore and non-Singapore incorporation. While the size of the non-Singapore incorporation sub-sample ($n = 99$) is less than one hundred, an additional Shapiro-Wilk statistic on this sub-sample is tested. It has a significance level of 0.127 which is also greater than 0.05. Table 4.2 indicates the number of companies in this data processing and normalization exercise with the sizes of the final full sample and each sub-sample set.

**Table 4.2: Sample Size**

<table>
<thead>
<tr>
<th></th>
<th>Full Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>96 Chinese companies between 2009 and 2011</td>
<td>216</td>
</tr>
<tr>
<td>288 Less Data failing the linear regression assumptions (72)</td>
<td></td>
</tr>
<tr>
<td>Including Sub-sample of Singapore incorporated firms</td>
<td>117</td>
</tr>
<tr>
<td>Sub-sample of non-Singapore incorporated firms</td>
<td>99</td>
</tr>
</tbody>
</table>

In summary, a full sample size of 216 observations in the study period between 2009 and 2011, including 117 Singapore incorporated firm-year and 99 non-Singapore incorporated firm-year data from the two sub-samples, are finalized for the following t-tests and regression analysis.

### 4.3.3 Descriptive Statistics

Descriptive statistics of the full sample of Chinese companies and the two sub-samples of Singapore incorporated and non-Singapore incorporated companies are included in this sub-section. Table 4.3 provides the descriptive statistics of scale variables for all three data samples.
Table 4.3: Descriptive Statistics of Scale Variables for the Full Sample, Singapore Incorporated and Non-Singapore Incorporated Firms between 2009 and 2011

<table>
<thead>
<tr>
<th></th>
<th>2009-2011</th>
<th>PIND</th>
<th>L_BSIZE</th>
<th>L_HIST</th>
<th>CR</th>
<th>DE</th>
<th>L_MKCAP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Full Sample</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(n=216)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>0.4418</td>
<td>1.8736</td>
<td>1.9755</td>
<td>4.2347</td>
<td>14.3813</td>
<td>11.5480</td>
<td></td>
</tr>
<tr>
<td>Median</td>
<td>0.4300</td>
<td>1.7900</td>
<td>1.9500</td>
<td>2.0450</td>
<td>0.0000</td>
<td>11.3950</td>
<td></td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>0.0894</td>
<td>0.2155</td>
<td>0.5564</td>
<td>7.6472</td>
<td>27.0913</td>
<td>1.4687</td>
<td></td>
</tr>
<tr>
<td>Skewness</td>
<td>0.212</td>
<td>0.461</td>
<td>1.345</td>
<td>7.216</td>
<td>2.634</td>
<td>0.478</td>
<td></td>
</tr>
<tr>
<td>Kurtosis</td>
<td>-0.748</td>
<td>0.079</td>
<td>2.204</td>
<td>67.391</td>
<td>7.979</td>
<td>0.104</td>
<td></td>
</tr>
<tr>
<td><strong>Singapore</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incorporated Firms</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(n=117)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>0.4444</td>
<td>1.8701</td>
<td>2.0344</td>
<td>2.9329</td>
<td>12.9335</td>
<td>11.7354</td>
<td></td>
</tr>
<tr>
<td>Median</td>
<td>0.4300</td>
<td>1.7900</td>
<td>1.9500</td>
<td>1.8300</td>
<td>0.2700</td>
<td>11.5100</td>
<td></td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>0.0919</td>
<td>0.2092</td>
<td>0.6406</td>
<td>2.7011</td>
<td>20.6566</td>
<td>1.4579</td>
<td></td>
</tr>
<tr>
<td>Skewness</td>
<td>0.160</td>
<td>0.055</td>
<td>1.306</td>
<td>2.147</td>
<td>1.821</td>
<td>0.670</td>
<td></td>
</tr>
<tr>
<td>Kurtosis</td>
<td>-0.696</td>
<td>-0.466</td>
<td>1.582</td>
<td>4.801</td>
<td>2.649</td>
<td>0.181</td>
<td></td>
</tr>
<tr>
<td><strong>Non-Singapore</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incorporated Firms</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(n=99)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>0.4386</td>
<td>1.8777</td>
<td>1.9060</td>
<td>5.7731</td>
<td>16.0924</td>
<td>11.3265</td>
<td></td>
</tr>
<tr>
<td>Median</td>
<td>0.4300</td>
<td>1.7900</td>
<td>1.9500</td>
<td>2.6900</td>
<td>0.0000</td>
<td>11.3600</td>
<td></td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>0.0866</td>
<td>0.2236</td>
<td>0.4295</td>
<td>10.735</td>
<td>33.1609</td>
<td>1.4578</td>
<td></td>
</tr>
<tr>
<td>Skewness</td>
<td>0.275</td>
<td>0.855</td>
<td>0.732</td>
<td>5.334</td>
<td>2.567</td>
<td>0.288</td>
<td></td>
</tr>
<tr>
<td>Kurtosis</td>
<td>-0.813</td>
<td>0.550</td>
<td>-0.070</td>
<td>34.700</td>
<td>6.532</td>
<td>-0.155</td>
<td></td>
</tr>
</tbody>
</table>

Furthermore, the descriptive statistics of the dichotomous variables (CEO_D, NCOM, INCORP and INCORP_CEOD) are included in Table 4.4; the distribution of CEO duality among the full sample and each sub-sample is summarized in Table 4.5; and the descriptive statistics of other firm data is presented in Table 4.6.
Table 4.4: Descriptive Statistics of Categorical Variables for the Full Sample, Singapore Incorporated and Non-Singapore Incorporated Firms between 2009 and 2011

<table>
<thead>
<tr>
<th></th>
<th>2009-2011</th>
<th>CEOD</th>
<th>NCOM</th>
<th>INCORP</th>
<th>INCORP_CEOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Sample</td>
<td>(n=216)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td>0.4074</td>
<td>0.9907</td>
<td>0.5417</td>
<td>0.2222</td>
</tr>
<tr>
<td>Singapore</td>
<td>Incorporated Firms</td>
<td>(n=117)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td>0.4103</td>
<td>1.0000</td>
<td>1.0000</td>
<td>0.4103</td>
</tr>
<tr>
<td>Non-Singapore</td>
<td>Incorporated Firms</td>
<td>(n=99)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td>0.4040</td>
<td>0.9798</td>
<td>0.0000</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

In terms of board composition, both the means of the proportion of independent directors (PIND) and board size (L_BSIZE), as listed in Table 4.3, are relatively consistent between the full sample and the two sub-samples. The means of the proportion of independent directors range between 0.4386 and 0.4444, indicating that all Chinese firms fulfill the CCG 2005 requirements of at least one third (i.e. PIND equals to or higher than 0.3333) of independent directors making up the board of directors. Meanwhile, the means of the natural logarithm of board size (L_BSIZE) are relatively consistent at around 1.87, or the means of the actual board size (BSIZE in Table 4.6) range from 6.62 to 6.71 members within BODs. In other words, on average, there were three independent directors on the BODs of Chinese firms in Singapore between 2009 and 2011.

The firm liquidity and leverage terms of credit ratio (CR) and debt-to-equity ratio (DE) from Table 4.3 shows that both ratios are higher with non-Singapore incorporated Chinese firms than those firms incorporated in Singapore. On average, the credit ratio of
Singapore incorporated firms is at 2.93 while the credit ratio of non-Singapore incorporated firms is almost double of the Singapore incorporated firms at 5.77, indicating that non-Singapore incorporated firms have a higher risk of insolvency than the Singapore incorporated firms. A similar liquidity trend is also observed from the comparison of the debt-to-equity ratios. On average, non-Singapore incorporated firms have higher debt-to-equity ratios than Singapore incorporated firms by almost 25%.

Table 4.5: Board Leadership Structure amongst the Full Sample, Singapore Incorporated and Non-Singapore Incorporated Firms between 2009 and 2011

<table>
<thead>
<tr>
<th>2009-2011</th>
<th>CEO Duality</th>
<th>CEO Non-duality</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Full Sample</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm-year</td>
<td>88</td>
<td>128</td>
<td>216</td>
</tr>
<tr>
<td><strong>Singapore Incorporated Firms</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm-year</td>
<td>48</td>
<td>69</td>
<td>117</td>
</tr>
<tr>
<td><strong>Non-Singapore Incorporated Firms</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm-year</td>
<td>40</td>
<td>59</td>
<td>99</td>
</tr>
</tbody>
</table>

Among the full sample of 216 firm-year observations, there are 88 firm-years that have adopted CEO duality as their board leadership structure (refer to Table 4.5), while the majority of 128 firm-years have complied with CCG 2005 by having their CEO and COB as separate individuals. Both of the two sub-samples of Chinese companies have more firms adopting the separate roles of CEO and COB rather than CEO duality. Meanwhile, the descriptive statistics also show that the majority boards of non-Singapore incorporated Chinese firms have formed their nomination committees (NCOM) to make board appointment recommendations to their BODs (refer to Table 4.4), while all Chinese firms incorporated in Singapore have formed their nomination committees within their BODs.
for board appointment matters. Also presented in Table 4.4, the dummy variable for firm incorporation (INCORP) is assigned as being equal to 1 for Singapore incorporated firms and 0 for non-Singapore incorporated firms. The interaction term INCORP_CEOD (product of INCORP and CEOD) is applied to examine the moderating effect of INCORP on the association between CEO duality and the financial performance of firms.

Table 4.6 indicates that Chinese firms incorporated in Singapore have a longer means of firm history (HIST) with a higher means of market capitalization (MKCAP) than those non-Singapore incorporated firms. On average, Singapore incorporated firms have their firm histories of 9.96 years, which are over two years longer than those non-Singapore incorporated firms with their firm history mean at 7.42 years. Nevertheless, Singapore incorporated firms are also, on average, capitalized around SGD 188,000 more than those non-Singapore incorporated firms from the market.

Table 4.6: Descriptive Statistics of Other Firm Data for the Full Sample, Singapore Incorporated and Non-Singapore Incorporated Firms between 2009 and 2011

<table>
<thead>
<tr>
<th>2009-2011</th>
<th>Independent Directors (No.)</th>
<th>Board Size (No.)</th>
<th>Firm History (Year)</th>
<th>Market Capitalization (SGD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Sample (n=216)</td>
<td>2.8796</td>
<td>6.662</td>
<td>8.7963</td>
<td>351,958</td>
</tr>
<tr>
<td>Singapore Incorporated Firms (n=117)</td>
<td>2.8803</td>
<td>6.6239</td>
<td>9.9573</td>
<td>438,285</td>
</tr>
<tr>
<td>Non-Singapore Incorporated Firms (n=99)</td>
<td>2.8788</td>
<td>6.7071</td>
<td>7.4242</td>
<td>249,936</td>
</tr>
</tbody>
</table>
4.4 T-test

The independent-groups t-test is used to determine whether there is a significant difference of means between two groups of firms within a particular data set. This section first presents the t-test results from the three samples of firms for investigating the associations of CEO duality with the proportion of independent directors and board size for testing their hypothesized relationships as presented in hypotheses H1 and H2, respectively. This is followed by the testing of firm performance between Singapore and non-Singapore incorporated firms in the full sample of Chinese firms, and the two sub-samples of Chinese firms, with CEO duality and non-duality in order to examine whether there is a significant difference between the performance means of firms within a particular data set. The results include Levene’s test for equality of variances between two subject groups. The Levene’s test for the homogeneity of variances is conducted to determine the t-test results that it is needed to test whether there is a significant difference between the two group means.

4.4.1 T-tests for the Proportion of Independent Directors and Board Size

Table 4.7 and Table 4.8 outline the results of t-tests for the proportion of independent directors (PIND) and board size (L_BSIZE) in the full sample of Chinese firms and the two sub-samples of Singapore incorporated and non-Singapore incorporated firms, respectively.
Table 4.7: Independent-groups T-test for the Differences between the Proportion of Independent Directors (PIND) in the Full Sample of Chinese Firms, Singapore Incorporated and Non-Singapore Incorporated Firms between 2009 and 2011

<table>
<thead>
<tr>
<th>Data Group</th>
<th>CEOD</th>
<th>Sample Size</th>
<th>PIND Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Sample (n = 216)</td>
<td>1</td>
<td>88</td>
<td>0.4624</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>128</td>
<td>0.4276</td>
</tr>
<tr>
<td>Singapore Incorporated Firms (n = 117)</td>
<td>1</td>
<td>48</td>
<td>0.4619</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>69</td>
<td>0.4323</td>
</tr>
<tr>
<td>Non-Singapore Incorporated Firms (n = 99)</td>
<td>1</td>
<td>40</td>
<td>0.4630</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>59</td>
<td>0.4220</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Proportion of Independent Directors (PIND)</th>
<th>t-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>t-statistic</td>
</tr>
<tr>
<td>Full Sample of Chinese Firms (n = 216)</td>
<td>2.860</td>
</tr>
<tr>
<td>Singapore Incorporated Firms (n = 117)</td>
<td>1.725</td>
</tr>
<tr>
<td>Non-Singapore Incorporated Firms (n = 99)</td>
<td>2.364</td>
</tr>
</tbody>
</table>
Table 4.8: Independent-groups T-test for the Differences between the Board Size (L_BSIZE) in the Full Sample of Chinese Firms, Singapore Incorporated and Non-Singapore Incorporated Firms between 2009 and 2011

<table>
<thead>
<tr>
<th>Data Group</th>
<th>CEOID</th>
<th>Sample Size</th>
<th>L_BSIZE Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Sample (n = 216)</td>
<td>1</td>
<td>88</td>
<td>1.8114</td>
</tr>
<tr>
<td>Singapore Incorporated Firms (n = 117)</td>
<td>1</td>
<td>48</td>
<td>1.7940</td>
</tr>
<tr>
<td>Non-Singapore Incorporated Firms (n = 99)</td>
<td>1</td>
<td>40</td>
<td>1.8323</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Board Size (L_BSIZE)</th>
<th>t-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>t-statistic</td>
</tr>
<tr>
<td>Full Sample of Chinese Firms (n = 216)</td>
<td>-3.764</td>
</tr>
<tr>
<td>Singapore Incorporated Firms (n = 117)</td>
<td>-3.538</td>
</tr>
<tr>
<td>Non-Singapore Incorporated Firms (n = 99)</td>
<td>-1.770</td>
</tr>
</tbody>
</table>
Table 4.7 shows that the proportion of independent directors (PIND) is generally higher in Chinese firms with CEO duality than that of Chinese firms with CEO non-duality. The corresponding t-test result suggests that this difference is statistically significant at the 1% significance level, and that there is a positive relationship between CEO duality and PIND. This finding also holds for the two sub-samples: Singapore incorporated and non-Singapore incorporated Chinese firms.

In contrast, Table 4.8 shows that the natural logarithm of board size (L_BSIZE) is generally lower in Chinese firms with CEO duality than that of Chinese firms with CEO non-duality. The corresponding t-test result supports this difference is also statistically significant at the 1% significance level, and there is a negative relationship between CEO duality and L_BSIZE. Similarly, this empirical finding holds for the two sub-samples of Singapore incorporated and non-Singapore incorporated Chinese firms.

Table 4.9 summarizes the results of t-tests in connection to the testing of hypotheses H1 and H2.

### Table 4.9: Summary of T-tests for CEO Duality, Proportion of Independent Directors (PIND) and Board Size (L_BSIZE) in the Full Sample of Chinese Firms, Singapore Incorporated and Non-Singapore Incorporated Firms between 2009 and 2011

<table>
<thead>
<tr>
<th></th>
<th>Full Sample of Chinese Firms (n = 216)</th>
<th>Singapore Incorporated Firms (n = 117)</th>
<th>Non-Singapore Incorporated Firms (n = 99)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PIND</td>
<td>L_BSIZE</td>
<td>PIND</td>
</tr>
<tr>
<td>CEO D</td>
<td>0.005***</td>
<td>0.000***</td>
<td>0.087*</td>
</tr>
<tr>
<td>H1</td>
<td>X</td>
<td>N.A.</td>
<td>X</td>
</tr>
<tr>
<td>H2</td>
<td>N.A.</td>
<td>✓</td>
<td>N.A.</td>
</tr>
</tbody>
</table>

Note: ***Significant at the 1% level; **Significant at the 5% level; *Significant at the 10% level; ✓ = Supported; X = Not Supported; and N.A. = Not Applicable.
4.4.2 Performance of firms between Singapore and Non-Singapore Incorporation

In order to study the differences in the financial performance between Chinese firms with Singapore incorporation and non-Singapore incorporation within different sub-sample data sets between 2009 and 2011, an independent-groups t-test is applied to test the full sample of Chinese firms, and the two sub-samples of Chinese firms, with CEO duality and non-duality. T-tests are applied to determine whether there are significant differences in these three firm data sets. The results obtained under the assumption of non-homogenous variance of firm performance within different samples of data are presented in Table 4.10.

The results for the full sample of Chinese firms suggest that the homogeneity assumption is violated and, hence, there is a statistically significant difference in the variances of performance between firms with Singapore and non-Singapore incorporation at the 5% significance level. The p-values of the two-tail tests are close to zero, suggesting that the null hypothesis of the equality of means can be rejected at the 1% significance level. This independent-groups t-test indicates that there is a significant difference of performance, where Chinese firms in the full sample with Singapore incorporation generally performing better in terms of the annual rate of change in ROA than those non-Singapore incorporated firms.

The results from the CEO duality sub-sample of Chinese firms show that the homogeneity assumption is maintained and, hence, there is no statistically significant difference in the variances and means of performance between Chinese firms with Singapore incorporation and non-Singapore incorporation. Moreover, the multiple regression analysis for Chinese firms in the Singapore incorporation sub-sample in the subsequent Section 4.5.2 further suggests that CEO duality is not significantly associated with firm performance in this sub-sample of firm data.
The results from the CEO non-duality sub-sample of Chinese firms also indicate that the homogeneity assumption is violated. There is a statistically significant difference of the variances of performance between firms with Singapore and non-Singapore incorporation at the 1% level. The p-values of the two-tail tests that are close to zero, indicating that the null hypothesis for the equality of means can be rejected at the 1% significance level. This independent-groups t-test supports that there is a significant difference in performance, where Chinese firms with CEO non-duality and Singapore incorporation generally perform better than those non-Singapore incorporated Chinese firms.

Table 4.10: Independent-groups T-test for the Differences of the Financial Performance (△ROA) between Singapore Incorporated and Non-Singapore Incorporated Firms between 2009 and 2011

<table>
<thead>
<tr>
<th>Firm Performance (ΔROA)</th>
<th>Levene’s Test for Equality of Variances</th>
<th>t-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F-statistic</td>
<td>p-value</td>
</tr>
<tr>
<td>Full Sample (n = 216)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal variance assumed</td>
<td>5.460</td>
<td>0.020</td>
</tr>
<tr>
<td>Equal variance not assumed</td>
<td>4.152</td>
<td>187.979</td>
</tr>
<tr>
<td>CEO Duality (n = 88)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal variance assumed</td>
<td>1.147</td>
<td>0.287</td>
</tr>
<tr>
<td>Equal variance not assumed</td>
<td>1.236</td>
<td>85.608</td>
</tr>
<tr>
<td>CEO Non-duality (n = 128)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal variance assumed</td>
<td>16.356</td>
<td>0.000</td>
</tr>
<tr>
<td>Equal variance not assumed</td>
<td>4.358</td>
<td>101.718</td>
</tr>
</tbody>
</table>
4.5 Regression Analysis

Regression analysis is used to examine whether the specified independent variables are actually affecting or predicting the dependent variable as hypothesized. In terms of statistical validity, the following statistics are presented for discussion in this study.

i. $R^2$: Coefficient of determination (model fitness)
ii. F-statistic: Model significance
iii. t-statistic: Parameter significance
iv. Beta-coefficient: Strength of effects from the dependent variables

The following three consecutive sub-sections present the results of three multiple regressions for the data from the full sample of Chinese firms, and the two sub-samples of firms with Singapore incorporation and non-Singapore incorporation, to work along with the results from t-tests (refer to Table 4.10) in order to investigate the association between CEO duality and the financial performance of firms, as hypothesized in H3a and H3b.

(4.1) $\Delta ROA = \beta_0 + \beta_1 \text{CEOD} + \beta_2 \text{PIND} + \beta_3 \text{L_BSIZE} + \beta_4 \text{NCOM} + \beta_5 \text{L_HIST} + \beta_6 \text{CR} + \beta_7 \text{DE} + \beta_8 \text{L_MKCAP} + \epsilon_j$

In Section 4.5.5, another multiple regression analysis is conducted to test whether there is a moderating effect from firm incorporation on the association between CEO duality and the financial performance of firms, as hypothesized in H4.

(4.2) $\Delta ROA = \beta_0 + \beta_1 \text{CEOD} + \beta_2 \text{PIND} + \beta_3 \text{L_BSIZE} + \beta_4 \text{NCOM} + \beta_5 \text{L_HIST} + \beta_6 \text{CR} + \beta_7 \text{DE} + \beta_8 \text{L_MKCAP} + \beta_9 \text{INCORP} + \beta_{10} \text{INCORP_CEOD} + \epsilon_j$

The variables used in Equations 4.1 and 4.2 are described in Table 4.1.
4.5.1 Multiple Regression for the Full Sample of Chinese Firms

Table 4.11 presents the results for the multiple regression model of the full sample of Chinese firms as per Equation 4.1. The model has an overall $R^2$ of 0.203 (an adjusted $R^2$ of 0.172), implying that around 20% of the variance of firm performance ($\Delta$ROA) can be predicted by the independent and control variables. The model is statistically significant at the 1% significance level with an F-statistic of 6.581.

i. The coefficient of CEO duality is 0.160 with a t-statistic of 2.574. Thus, the effect of CEO duality on the annual rate of change in return on firm asset is statistically significant at the 5% significance level. This result supports the alternative hypothesis (H3b) that CEO duality is positively related to the financial performance of Chinese firms.

ii. The coefficient of proportion of independent directors is -0.592 with a t-statistic of -1.568, which is not statistically significantly related to firm performance. However, this result is different from the predicted result that PIND has a positive effect on the financial performance of firms. Board size is significantly negatively related to firm performance at the 5% significance level, with a coefficient -0.432 and a t-statistic -2.502. This finding is in line with the predicted result that board size has a negative effect on the financial performance of firms.

iii. The finding for NCOM at coefficient 1.002 with a t-statistic of 3.283 to predict a statistically significant positive effect on the financial performance of firms at the 1% significance level. The finding for L_HIST shows an insignificant positive effect on firm performance, which is also not in line with the predicted negative effect on firm performance. Meanwhile, the results from the two liquidity ratios (CR and DE) show that they have a negative effect on firm performance, whereas the market capitalization is positively related to firm performance with coefficient 0.110 and t-statistic 4.843 at the 1% significance level.
Table 4.11: Regression Results for the Financial Performance of the Full Sample of Chinese Firms between 2009 and 2011

<table>
<thead>
<tr>
<th>Variables</th>
<th>Beta-coefficient</th>
<th>t</th>
<th>p-value (Sig.)</th>
<th>Predicted Sign</th>
<th>H3a</th>
<th>H3b</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept (β₀)</td>
<td>-1.655***</td>
<td>-2.987</td>
<td>0.003</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CEOD (β₁)</td>
<td>0.160**</td>
<td>2.574</td>
<td>0.011</td>
<td>X</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>PIND (β₂)</td>
<td>-0.592</td>
<td>-1.568</td>
<td>0.118</td>
<td>Positive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L_BSIZE (β₃)</td>
<td>-0.432**</td>
<td>-2.502</td>
<td>0.013</td>
<td>Negative</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NCOM (β₄)</td>
<td>1.002***</td>
<td>3.283</td>
<td>0.001</td>
<td>Positive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L_HIST (β₅)</td>
<td>0.040</td>
<td>0.720</td>
<td>0.473</td>
<td>Negative</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CR (β₆)</td>
<td>-0.007*</td>
<td>-1.914</td>
<td>0.057</td>
<td>Positive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DE (β₇)</td>
<td>-0.002</td>
<td>-1.625</td>
<td>0.106</td>
<td>Positive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L_MKCAP (β₈)</td>
<td>0.110***</td>
<td>4.843</td>
<td>0.000</td>
<td>Positive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R²</td>
<td></td>
<td>0.203</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted R²</td>
<td></td>
<td>0.172</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-statistic</td>
<td></td>
<td>6.581***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: ***Significant at the 1% level; **Significant at the 5% level; *Significant at the 10% level; ✓ = Supported; and X = Not Supported.
4.5.2 Multiple Regression for Singapore Incorporated Chinese Firms

Table 4.12 shows the results for the multiple regression for the Chinese firms incorporated in Singapore, as per Equation 4.1. The model has an overall $R^2$ of 0.183 (an adjusted $R^2$ of 0.130), implying that around 18% of the variance of firm performance ($\Delta$ ROA) can be explained by the independent and control variables. The model is statistically significant at the 1% significance level with an F-statistic of 3.481.

i. CEO duality is insignificant to predict a negative connection to the financial performance of firms with a coefficient of -0.010 and a t-statistic -0.137. This finding is rather different from the result for the full sample of Chinese firms. However, this regression result indicates a lack of statistically significant support for hypotheses H3a and H3b.

ii. There is a negative coefficient of the proportion of independent directors of -0.857 with a t-statistic -1.919, which is statistically significant at the 10% significance level. However, this result is also different from the predicted result that PIND has a positive effect on the financial performance of firms. Board size is statistically significantly related to firm performance at the 1% significance level, with a negative coefficient of -0.740 and a t-statistic of -3.526. This finding is in line with the predicted result that board size has a negative effect on firm performance.

iii. NCOM is constant in this sub-sample, while all Chinese firms incorporated in Singapore have formed their nomination committees within their BODs in compliance with the CCG 2005.

iv. The finding for L_HIST is in line with the predicted effect on firm performance, that is, they have a negative coefficient of -0.005 and a t-statistic of -0.090. Meanwhile, the results from the two liquidity ratios (CR and DE) show that they
both have a *negative* effect on firm performance, whereas the market capitalization has a statistically significant *positive* coefficient of 0.109 and t-statistic of 3.8984 at the 1% significance level.

**Table 4.12: Regression Results for the Financial Performance of Singapore Incorporated Chinese Firms between 2009 and 2011**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Beta-coefficient</th>
<th>t</th>
<th>p-value (Sig.)</th>
<th>Predicted Sign</th>
<th>H3a</th>
<th>H3b</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept ($\beta_0$)</td>
<td>0.287</td>
<td>0.500</td>
<td>0.618</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CEOD ($\beta_1$)</td>
<td>-0.010</td>
<td>-0.137</td>
<td>0.891</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>PIND ($\beta_2$)</td>
<td>-0.857*</td>
<td>-1.919</td>
<td>0.058</td>
<td>Positive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L_BSIZE ($\beta_3$)</td>
<td>-0.740***</td>
<td>-3.526</td>
<td>0.001</td>
<td>Negative</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NCOM ($\beta_4$)</td>
<td>N.A.</td>
<td>N.A.</td>
<td>N.A.</td>
<td>N.A.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L_HIST ($\beta_5$)</td>
<td>-0.005</td>
<td>-0.090</td>
<td>0.928</td>
<td>Negative</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CR ($\beta_6$)</td>
<td>-0.006</td>
<td>-0.432</td>
<td>0.667</td>
<td>Positive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DE ($\beta_7$)</td>
<td>-0.003</td>
<td>-1.329</td>
<td>0.187</td>
<td>Positive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L_MKCAP ($\beta_8$)</td>
<td>0.109***</td>
<td>3.894</td>
<td>0.000</td>
<td>Positive</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$R^2 = 0.183$

Adjusted $R^2 = 0.130$

F-statistic = 3.481***

Note: ***Significant at the 1% level; **Significant at the 5% level; *Significant at the 10% level; ✓ = Supported; X = Not Supported; and N.A. = Not Applicable (NCOM is constant in this sub-sample and deleted from the analysis).
4.5.3 Multiple Regression for Non-Singapore Incorporated Chinese Firms

Table 4.13 contains the results for the multiple regression for the Chinese firms with non-Singapore incorporation, as per Equation 4.1. The model has an overall $R^2$ of 0.276 (an adjusted $R^2$ of 0.211), implying that almost 28% of the variance of firm performance ($\Delta$ ROA) can be predicted by the independent and control variables. The model is statistically significant at the 1% significance level with an F-statistic of 4.279.

i. The coefficient of CEO duality is consistent with the full sample with a positive value of 0.412 and a t-statistic of 3.974, which is statistically significant at the 1% level. This regression result supports the alternative hypothesis (H3b) that CEO duality is positively associated with the financial performance of Chinese firms.

ii. The proportion of independent directors is not statistically significantly related to the financial performance of firms with a negative coefficient of -0.242 and a t-statistic of -0.386. However, this finding is still different from the predicted result that PIND would have a positive effect on firm performance. Board size is also not statistically significantly related to firm performance with a negative coefficient of -0.017 and a t-statistic of -0.060, but this result is in line with the predicted result that board size has a negative effect on firm performance.

iii. The finding for NCOM with a positive coefficient of 1.046 and a t-statistic of 3.096 is statistically significant at the 1% significance level, which is consistent with the predicted results that they have a positive effect on firm performance. However, the finding for L_HIST with a positive coefficient of 0.283 and a t-statistic of 2.220 shows inconsistency with its predicted effect on firm performance. Nevertheless, the results from the two liquidity ratios (CR and DE) show that they have a negative effect on firm performance, whereas the market capitalization has a statistically significant positive effect on firm performance with a coefficient of 0.089 and a t-statistic of 2.354 at the 5% significance level.
Table 4.13: Regression Results for the Financial Performance of Non-Singapore Incorporated Chinese Firms between 2009 and 2011

<table>
<thead>
<tr>
<th>Variables</th>
<th>Beta-coefficient</th>
<th>t</th>
<th>p-value (Sig.)</th>
<th>Predicted Sign</th>
<th>H3a</th>
<th>H3b</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept ($\beta_0$)</td>
<td>-3.059***</td>
<td>-3.659</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CEOD ($\beta_1$)</td>
<td>0.412***</td>
<td>3.974</td>
<td>0.000</td>
<td>X</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>PIND ($\beta_2$)</td>
<td>-0.242</td>
<td>-0.386</td>
<td>0.701</td>
<td>Positive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L_BSIZE ($\beta_3$)</td>
<td>-0.017</td>
<td>-0.060</td>
<td>0.952</td>
<td>Negative</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NCOM ($\beta_4$)</td>
<td>1.046***</td>
<td>3.096</td>
<td>0.003</td>
<td>Positive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L_HIST ($\beta_5$)</td>
<td>0.283**</td>
<td>2.220</td>
<td>0.029</td>
<td>Negative</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CR ($\beta_6$)</td>
<td>-0.004</td>
<td>-1.003</td>
<td>0.319</td>
<td>Positive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DE ($\beta_7$)</td>
<td>-0.002</td>
<td>-1.349</td>
<td>0.181</td>
<td>Positive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L_MKCAP ($\beta_8$)</td>
<td>0.089**</td>
<td>2.354</td>
<td>0.021</td>
<td>Positive</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$R^2$ = 0.276  
Adjusted $R^2$ = 0.211  
F-statistic = 4.279***

Note: ***Significant at the 1% level; **Significant at the 5% level; *Significant at the 10% level; ✓ = Supported; and X = Not Supported.
4.5.4 Summary of Multiple Regressions

Table 4.14 summarizes the regression results for the three data sets of Chinese firms in Sections 4.5.1 to 4.5.3.

i. There are mixed results regarding the effects of CEO duality on the financial performance of firms across the three data samples. On the one hand, the findings for the full sample of Chinese firms and the sub-sample of firms with non-Singapore incorporation support the hypothesis (H3b) that CEO duality is positively associated with the financial performance of firms. On the other hand, the regression result for the sub-sample of firms with Singapore incorporation shows a negative connection between CEO duality and the financial performance of Chinese firms, but without a statistically significant support for another hypothesis (H3a), which opposes the prior view.

ii. Both the proportion of independent directors (PIND) and board size (L_BSIZE) consistently indicate a negative effect on the financial performance of Chinese firms, in which the findings for PIND are different from the predicted result of a positive effect, and the findings for L_BSIZE are in line with the predicted effect.

iii. The presence of nomination committees is statistically significant and consistent with a positive effect on the financial performance of Chinese firms, except in the sub-sample of firms incorporated in Singapore as all firms in this sub-sample have formed their nomination committees within their BODs in compliance with the CCG 2005.

iv. There are also mixed effects of firm history on firm performance, with a positive relationship in the full sample of Chinese firms and the sub-sample of non-Singapore incorporated firms, but with a negative relationship for Singapore incorporated firms.
v. The findings for both the two debt financing ratios (CR and DE) and market capitalization show consistency, with a negative and a positive effect on firm performance, respectively.

Table 4.14: Summary of Regression Results for the Financial Performance of Chinese Firms between 2009 and 2011

<table>
<thead>
<tr>
<th>Model</th>
<th>Full Sample of Chinese Firms</th>
<th>Singapore Incorporated Chinese Firms</th>
<th>Non-Singapore Incorporated Chinese Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept (β₀)</td>
<td>-1.655***</td>
<td>0.287</td>
<td>-3.059***</td>
</tr>
<tr>
<td>CEO (β₁)</td>
<td>0.160**</td>
<td>-0.010</td>
<td>0.412***</td>
</tr>
<tr>
<td>PIND (β₂)</td>
<td>-0.592</td>
<td>-0.857*</td>
<td>-0.242</td>
</tr>
<tr>
<td>L_BSIZE (β₃)</td>
<td>-0.432**</td>
<td>-0.740***</td>
<td>-0.017</td>
</tr>
<tr>
<td>NCOM (β₄)</td>
<td>1.002***</td>
<td>N.A.</td>
<td>1.046***</td>
</tr>
<tr>
<td>L_HIST (β₅)</td>
<td>0.040</td>
<td>-0.005</td>
<td>0.283**</td>
</tr>
<tr>
<td>CR (β₆)</td>
<td>-0.007*</td>
<td>-0.006</td>
<td>-0.004</td>
</tr>
<tr>
<td>DE (β₇)</td>
<td>-0.002</td>
<td>-0.003</td>
<td>-0.002</td>
</tr>
<tr>
<td>L_MKCAP (β₈)</td>
<td>0.110***</td>
<td>0.109***</td>
<td>0.089**</td>
</tr>
<tr>
<td>R²</td>
<td>0.203</td>
<td>0.183</td>
<td>0.276</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>0.172</td>
<td>0.130</td>
<td>0.211</td>
</tr>
<tr>
<td>F-statistic</td>
<td>6.581***</td>
<td>3.481***</td>
<td>4.279***</td>
</tr>
<tr>
<td>p-value</td>
<td>0.000</td>
<td>0.002</td>
<td>0.000</td>
</tr>
<tr>
<td>Sample Size (n)</td>
<td>216</td>
<td>117</td>
<td>99</td>
</tr>
<tr>
<td>H3a</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>H3b</td>
<td>✔</td>
<td>X</td>
<td>✔</td>
</tr>
</tbody>
</table>

Note: ***Significant at the 1% level; **Significant at the 5% level; *Significant at the 10% level; ✔ = Supported; X = Not Supported; and N.A. = Not Applicable (NCOM is constant in the sub-sample of Singapore incorporated Chinese firms and deleted from this particular analysis).
4.5.5 Moderating Effect of Firm Incorporation on the Full Sample of Chinese Firms

Table 4.15 highlights the results from the multiple regressions for the full sample of Chinese firms, as per Equation 4.2. It is employed to test the moderating effect of firm incorporation on the association between CEO duality and the financial performance of firms by including the moderator INCORP and the interaction variable INCORP_CEOD in the regression model. The results from the multiple regressions for the full sample of Chinese firms without the moderating effect, as per Equation 4.1, are also extracted from Table 4.11 and listed for comparison. With the same sample size of 216 firm-years, the goodness of fit of the model (in terms of both R^2 and adjusted R^2) has improved by including the moderator (INCORP) and the interaction variable (INCORP_CEOD) in the regression model. Both INCORP and INCORP_CEOD are statistically significant with their beta-coefficients (β9 and β10) being not equal to zero. Consistent with the regression results from Section 4.5.1, the effect of CEO duality on firm performance is still statistically significant by including INCORP and INCORP_CEOD in the model, with a higher confidence level from the previous 95% to 99%, and a stronger effect of beta-coefficient from the previous 0.160 to 0.333. The regression results listed in Table 4.15, with both the beta-coefficients β9 and β10 being not equal to zero, suggesting that firm incorporation is a quasi-moderator (Sharma et al., 1981) for the full sample of Chinese firms between 2009 and 2011, with a positive moderating effect on the CEO duality-firm performance relationship, and thus, this relationship is contingent on INCORP, which is also a predictor itself. These results support the hypothesis (H4) that firm incorporation in Singapore has a positive moderating effect on the relationship between CEO duality and the financial performance of Chinese firms. In addition, firm incorporation also has a moderating effect on the associations between both the proportion of independent directors (PIND) and board size (L_BSIZE) with firm performance, which decreases their beta-coefficient and reduces their p-values from over 10% to statistically significant at the 10% significance level, and from the 5% significance level to the 1% significance level, respectively. Table 4.16 summarizes the moderating effect of firm incorporation on the full sample of Chinese firms between 2009 and 2011.
Table 4.15: Comparison of the Regression Results for the Moderating Effect of Firm Incorporation on the CEO Duality-Firm Performance Relationship of the Full Sample of Chinese Firms between 2009 and 2011

<table>
<thead>
<tr>
<th>Model</th>
<th>Full Sample of Chinese Firms with the Moderation of Firm Incorporation</th>
<th>Full Sample of Chinese Firms without the Moderation of Firm Incorporation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable</td>
<td>Beta-coefficient</td>
<td>t</td>
</tr>
<tr>
<td>Intercept ($\beta_0$)</td>
<td>-1.549***</td>
<td>-2.884</td>
</tr>
<tr>
<td>CEO D ($\beta_1$)</td>
<td>0.333***</td>
<td>3.755</td>
</tr>
<tr>
<td>PIND ($\beta_2$)</td>
<td>-0.667*</td>
<td>-1.820</td>
</tr>
<tr>
<td>L_BSIZE ($\beta_3$)</td>
<td>-0.450***</td>
<td>-2.687</td>
</tr>
<tr>
<td>NCOM ($\beta_4$)</td>
<td>0.829***</td>
<td>2.778</td>
</tr>
<tr>
<td>L_HIST ($\beta_5$)</td>
<td>0.042</td>
<td>0.768</td>
</tr>
<tr>
<td>CR ($\beta_6$)</td>
<td>-0.005</td>
<td>-1.258</td>
</tr>
<tr>
<td>DE ($\beta_7$)</td>
<td>-0.002</td>
<td>-1.644</td>
</tr>
<tr>
<td>L_MKCAP ($\beta_8$)</td>
<td>0.106***</td>
<td>4.787</td>
</tr>
<tr>
<td>INCORP ($\beta_9$)</td>
<td>0.296***</td>
<td>4.003</td>
</tr>
<tr>
<td>INCORP_CEOD ($\beta_{10}$)</td>
<td>-0.310***</td>
<td>-2.689</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.261</td>
<td></td>
</tr>
<tr>
<td>Adjusted $R^2$</td>
<td>0.225</td>
<td></td>
</tr>
<tr>
<td>F-statistic</td>
<td>7.231***</td>
<td></td>
</tr>
<tr>
<td>Sample Size (n)</td>
<td>216</td>
<td></td>
</tr>
<tr>
<td>H4</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

Note: ***Significant at the 1% level; **Significant at the 5% level; *Significant at the 10% level; ✓ = Supported; and N.A. = Not Applicable.

Table 4.16: Summary of the Moderating Effect of Firm Incorporation on the Full Sample of Chinese Firms between 2009 and 2011

<table>
<thead>
<tr>
<th>Sample Size (n)</th>
<th>p-value (significance)</th>
<th>Moderating Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Sample</td>
<td>216</td>
<td>0.000***</td>
</tr>
</tbody>
</table>

Note: ***Significant at the 1% level.
4.6 Chapter Summary

The results from the testing of the hypotheses, as developed in Chapter 3, are reported in this chapter. The results suggest various relationships between CEO duality, firm incorporation, the financial performance of firms and other control variables occurring at various statistical significance levels. In addition, the moderating effect of firm incorporation on the CEO duality-firm performance relationship is also tested with statistically supported evidence.

The empirical framework and regression model are first described in this chapter, followed by the verification of data and summaries of descriptive statistics from all three samples of Chinese firms in Singapore. Then, the results from t-tests and multiple regressions are listed for testing individual research hypotheses in this study. The four hypotheses of this study are retrieved from Chapter 3 as follows, with their corresponding empirical test results summarized in Table 4.17.

H1: CEO duality is *negatively* associated with the proportion of independent directors within the boards of directors of Chinese firms in Singapore.

H2: CEO duality is *negatively* associated with the size of the board of directors of Chinese firms in Singapore.

H3a: From the perspective of agency theory, CEO duality is *negatively* associated with the financial performance of Chinese firms in Singapore.

H3b: From the perspective of stewardship theory, CEO duality is *positively* associated with the financial performance of Chinese firms in Singapore.

H4: Firm incorporation has a *positive* moderating effect on the relationship between CEO duality and the financial performance of Chinese firms in Singapore.
Table 4.17: Summary of Hypotheses Testing

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Full Sample of Chinese Firms (n = 216)</th>
<th>Singapore Incorporated Firms (n = 117)</th>
<th>Non-Singapore Incorporated Firms (n = 99)</th>
<th>Empirical Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>t-test</td>
</tr>
<tr>
<td>H2</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>t-test</td>
</tr>
<tr>
<td>H3a</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>t-test and Multiple Regression Analysis</td>
</tr>
<tr>
<td>H3b</td>
<td>✓</td>
<td>X</td>
<td>✓</td>
<td>t-test and Multiple Regression Analysis</td>
</tr>
<tr>
<td>H4</td>
<td>✓</td>
<td>N.A.</td>
<td>N.A.</td>
<td>t-test and Multiple Regression Analysis</td>
</tr>
</tbody>
</table>

Note: ✓ = Supported; X = Not Supported; and N.A. = Not Applicable.

First, the t-test results from Table 4.7 show that the means of the proportion of independent directors (PIND) are generally higher in Chinese firms with CEO duality. These results are statistically significant in all three firm samples, suggesting that there is a positive relationship between CEO duality and the proportion of independent directors on the BOD. Meanwhile, the t-test results from Table 4.8 indicates that the board size (L_BSIZE) is generally smaller in Chinese firms with CEO duality, and the results from all three groups of data are also statistically significant to suggest that there is a negative relationship between CEO duality and board size. Hence, the negative relationship between CEO duality and the proportion of independent directors, as hypothesized in H1, is not supported; whereas the negative relationship between CEO duality and board size, as hypothesized in H2, is supported.
Second, the t-test results, as provided in Table 4.10, show the significance of differences of firm performance means between Singapore incorporated and non-Singapore incorporated Chinese firms with the three samples of firm data. The results for the full sample of Chinese firms and the sub-sample of firms with CEO non-duality suggest that the null hypothesis for the equality of firm performance means is rejected, which implies that there are statistically significant firm performance differences between Singapore and non-Singapore incorporated firms in both the full sample of firms and the sub-sample of firms with CEO non-duality. Meanwhile, the t-test results also indicate Singapore incorporated Chinese firms generally outperform those non-Singapore incorporated Chinese firms. However, the t-test results from the CEO duality sub-sample show that the homogeneity assumption is maintained and, hence, there is no significant performance difference between Singapore incorporated and non-Singapore incorporated firms with CEO duality board leadership structure. In addition, the results from the multiple regressions, as presented in Table 4.14, also indicate that there are mixed effects from CEO duality on firm performance in three firm samples. On the one hand, the findings for the full sample of Chinese firms and the sub-sample of non-Singapore incorporated firms provide statistically significant support for the hypothesis (H3b) that CEO duality is positively associated with the financial performance of firms. On the other hand, the regression result for the sub-sample of Singapore incorporated Chinese firms does not support a statistically significant relationship between CEO duality and firm performance, and hence, does not support either of the hypothesized relationships in H3a and H3b.

Lastly, another regression analysis is conducted to examine the moderating effect of firm incorporation on the association between CEO duality and the financial performance of firms as hypothesized in H4. The regression results listed in Table 4.15 provide a statistically significant support for hypothesis H4 by suggesting that firm incorporation in Singapore is a quasi-moderator for the full sample of Chinese firms with a positive moderating effect on the relationship between CEO duality and the financial performance of firms, and thus, this CEO duality-firm performance relationship is contingent on firm incorporation, which is also a predictor itself.
Chapter 5 Conclusion

5.1 Introduction

This study seeks to examine the relationship between the board leadership structure of CEO duality and firm performance, and the moderating effect of firm incorporation on this CEO duality-firm performance relationship for listed Chinese firms in Singapore. A sample of 105 Chinese companies listed on the SGX Mainboard between 2009 and 2011, with a total of 216 firm-year observations, is selected for empirical analysis. The research methodology is described in Chapter 3 and the empirical results are presented in Chapter 4. The following sections discuss the key findings from the empirical analysis in association with each research hypothesis to answer the corresponding research sub-questions, as stated in Chapter 3, as well as the theoretical and practical implications of the research findings from this study. In addition, the limitations of this research, together with the directions for future research, are also highlighted, followed by a summary of this research in the last section, in concluding this dissertation project.
5.2 Discussion of Empirical Findings

There are key empirical findings in association with the four hypotheses corresponding to the four research sub-questions, as stated in Chapter 3. This section discusses the results from the empirical analysis on the four research hypotheses, as presented in Chapter 4, to examine the relationship of board leadership structure to board independence, board size and firm performance in the context of listed Chinese firms in Singapore for the three consecutive years, between 2009 and 2011, after the 2008 GFC.

5.2.1 Hypothesis H1: CEO Duality and Board Independence

*Does CEO duality affect the proportion of independent directors on the board of directors in publicly listed Chinese firms in Singapore?*

H1: CEO duality is *negatively* associated with the proportion of independent directors within the boards of directors of Chinese firms in Singapore.

The above research sub-question with the corresponding hypothesis, H1, is tested by means of the t-test. The results are consistent with all three samples of firm data from the full sample of Chinese firms, Singapore incorporated and non-Singapore incorporated firms to suggest a statistically significant *positive* association between CEO duality and the proportion of independent directors (refer to Table 4.7). Hence, the alternative hypothesis of the negative association between CEO duality and the proportion of independent directors on the BOD is not supported.

It should be noted that the results for hypothesis H1 do not support the predicted relationship. As Chinese board independence is determined by firm-specific characteristics and governance variables (C. H. Chen & Al-Najjar, 2012), Chinese firms in Singapore are perhaps approaching a hybrid form of governance system. However, these empirical findings are consistent with the prior study in Hong Kong and Singapore.
and in line with the agency theory that individuals are self-interested optimizers (Elsayed, 2007) such that CEO duality board leadership structure increases agency costs to listed Chinese firms in Singapore which are mixed with smaller sized SOEs and POEs. This implies a greater need for board monitoring by outside directors (He & Sommer, 2010), especially when firm performance deviates from prior performance after the financial crisis (Tuggle et al., 2010).

5.2.2 Hypothesis H2: CEO Duality and Board Size

Does CEO duality affect the size of the board of directors in publicly listed Chinese firms in Singapore?

H2: CEO duality is negatively associated with the size of the board of directors of Chinese firms in Singapore.

The above research sub-question with the corresponding hypothesis, H2, is also tested by means of the t-test. The results are also consistent with all three samples of data from the full sample of Chinese firms, Singapore incorporated and non-Singapore incorporated firms to suggest that there is a statistically significant negative relationship between CEO duality and the board size of listed Chinese firms in Singapore (refer to Table 4.8). Thus, the alternative hypothesis of the negative association between CEO duality and board size is supported. These empirical findings are again consistent with the prior study in Hong Kong and Singapore that the board size is smaller in firms where the CEO is also the COB (Heaney, 2009). As the Chinese board size is primarily driven by firm complexity (C. H. Chen & Al-Najjar, 2012), and there is an information asymmetry between inside and outside directors particularly when growth options are highly involved (Heaney, 2009) in firms with strong business networks to China (Ewing et al., 2000) after the financial crisis, there are higher costs to reach agreements than the benefits from a larger board (Ning et al., 2010) to Chinese firms in Singapore with CEO duality board leadership.
5.2.3 Hypotheses H3a and H3b: CEO Duality and Firm Performance

Does CEO duality affect the firm performance of publicly listed Chinese firms in Singapore?

H3a: From the perspective of agency theory, CEO duality is negatively associated with the financial performance of Chinese firms in Singapore.

H3b: From the perspective of stewardship theory, CEO duality is positively associated with the financial performance of Chinese firms in Singapore.

The above research sub-questions with the corresponding hypotheses, H3a and H3b, are tested by means of multiple regression analysis. Prior to the regression analysis for the three samples of firm data, independent-groups t-tests are employed to ascertain the differences between the performance means between Singapore incorporated and non-Singapore incorporated firms among the full sample of Chinese firms, firms with the CEO duality and firms with the CEO non-duality board leadership structure are conducted to examine the homogeneity of firm performances. The empirical results from t-tests suggest that there are statistically significant differences for firm performance means between Singapore incorporated and non-Singapore incorporated firms for the full sample of Chinese firms and the sub-sample of firms with CEO non-duality, in which Singapore incorporated firms generally outperform those non-Singapore incorporated firms (refer to Table 4.10). However, the t-test result for the sub-sample of firms with CEO duality does not indicate that there are statistically significant differences for firm performance between Singapore incorporated and non-Singapore incorporated firms. These t-test results show that the firm performances between Singapore incorporated and non-Singapore incorporated firms are homogenous within the CEO duality sub-sample of Chinese firms, which serves as a supplementary indicator for further testing in the subsequent multiple regressions for the three samples of firm data individually.
There is inconsistency between the regression results from the three data samples of the full sample of Chinese firms, Singapore incorporated and non-Singapore incorporated firms (refer to Table 4.14). On the one hand, both the empirical results from the full sample and non-Singapore incorporated firms support the hypothesis (H3b) that CEO duality positively affects the financial performance of Chinese firms. On the other hand, the regression results from the sub-sample of Singapore incorporated firms indicate that there is no statistically significant effect of CEO duality on firm performance. Hence, the alternative hypothesis of H3b is supported by the evidence from the full sample and non-Singapore incorporated Chinese firms, implying that CEO duality is positively associated with firm performance. Thus, hypothesis H3a is not supported by the empirical findings from all three samples of firm data.

The empirical results for the CEO duality-firm performance relationship in the full sample of Chinese firms, which comprises mixed smaller sized SOEs and POEs, show support for the stewardship theory, in which firms benefit from the unity of command and direction from CEO duality (Donaldson & Davis, 1991) that aligns with the shareholders’ interests in that the costs of separating the CEO and COB are larger than the benefits to firm performance (Brickley et al., 1997). This CEO duality-firm performance relationship is also contingent upon firm incorporation such that non-Singapore incorporated firms show a stronger positive effect by CEO duality on firm performance. These arguments are consistent with the contingency theory, that the costs and benefits of CEO duality are affected by various internal and external factors (Finkelstein & D’Aveni, 1994), in which CEO duality is associated with better firm performance and the efficacy of governance mechanisms may be contingent upon organizational and environmental circumstances (Van Essen et al., 2013). Although a similar study in overseas-listed Chinese firms by Lu et al. (2011) suggests that CEO non-duality is positively related to firm performance, their study relies on samples from various markets in Hong Kong, Singapore, U.S. and U.K. between 1993 and 2006 with a mix of various sized SOEs and POEs in their sample, and without accounting for the effects from the 2008 GFC and the subsequent corporate scandals. Nevertheless, the empirical findings from this study are in
line with prior studies in mainland Chinese firms in favoring CEO duality (Peng et al., 2007; Van Essen et al., 2012; Yu, 2008), in particular for POEs (Peng et al., 2010).

Meanwhile, the regression results show certain consistencies in the relationships of other control variables with firm performance (also refer to Table 4.14). First, the proportion of independent directors and board size are consistently negatively related to firm performance among the full sample of Chinese firms, Singapore incorporated and non-Singapore incorporated firms. In contrast, the existence of nomination committees is positively related to firm performance for the full sample and non-Singapore incorporated Chinese firms, whereas all Singapore incorporated Chinese firms have already formed their nomination committees within their BODs. In addition, there is a positive association between market capitalization and firm performance in all three samples of Chinese firms that were tested.

Similarly to CEO duality, the empirical results for the association between board independence and firm performance also favor the stewardship theory, asserting that boards with minimal independent members help promote the unity of the board (Muth & Donaldson, 1998), which is contingent upon the business environment (Boyd, 1995) after the financial crisis. The same rationale works with the relationship of board size to firm complexity (C. H. Chen & Al-Najjar, 2012), in that there is an information asymmetry between inside and outside directors while firms having substantial growth options (Heaney, 2009) to predict a negative impact on a higher proportion of independent directors on a larger board have more difficulty reaching consensus (Cheng, 2008). In contrast, the presence of nomination committees is consistent with the two samples of firms, indicating that Chinese firms in Singapore realize the formation of independent board committees may strengthen a firm’s CG, which is positively related to firm performance (Lam & Lee, 2012). Furthermore, market capitalization, as the key indicator of a firm’s market valuation (SGX, 2011), has a significantly positive effect on firm performance in all three samples of Chinese firms, which is in line with the prior study (Yermack, 1996), but with a weaker effect from non-Singapore incorporated firms.
5.2.4 Hypothesis H4: Firm Incorporation Effect

*Does firm incorporation affect the relationship between board leadership structure and the firm performance of publicly listed Chinese firms in Singapore?*

H4: Firm incorporation has a *positive* moderating effect on the relationship between CEO duality and the financial performance of Chinese firms in Singapore.

The above research sub-question, with the corresponding hypothesis, H4, is also tested by means of regression analysis, with the inclusion of the moderator firm incorporation (INCORP) and the interaction variable (INCORP_CEOD) in the regression model (refer to Equation 4.2). The regression results for the full sample of Chinese firms with and without the moderating effect are listed together for comparison in Table 4.15. After including the moderator and the interaction variable, both the model fitness ($R^2$) and the model significance (F-statistic) are improved. The result is that the regression model is more complete with the moderator in terms of its fitness and significance. The moderating effect from firm incorporation successfully increases the effect of CEO duality on firm performance. The regression results with the moderating effect offer a statistically significant support for the *positive* moderation by the firm incorporation of Chinese firms operating fully under the CA in Singapore on the CEO duality-firm performance relationship. In addition, it is also suggested that firm incorporation is a *quasi-moderator* while the beta-coefficients of the moderator and the interaction variable are both non-zeros (Sharma et al., 1981). Thus, as a predictor itself, firm incorporation is also a moderator for the CEO duality-firm performance relationship. These empirical findings support the stewardship of CEO duality board leadership in Chinese firms, which is enhanced by the contingent of external regulatory and legal environments (Boyd, 1995) in Singapore. It provides a relatively structured CG system for Chinese firms seeking effective board cooperation, from the balance between board independence and the unity of command, to cope with potential business opportunities for quick responses to growth options in the three consecutive years, between 2009 and 2011, after the 2008 GFC.
5.2.5 Summary of Empirical Findings

In summary, the empirical findings for listed Chinese firms in Singapore generally support the stewardship theory that CEO duality is positively related to firm performance. Furthermore, the positive moderation of firm incorporation on this CEO duality-firm performance relationship also supports the contingency theory that CEO duality is contingent upon the external regulatory and legal environments of Singapore. However, the deviation in firm performance attracts a higher proportion of independent directors on BODs to monitor the CEO duality board leadership, but, at same time, firms can promote board unity by employing smaller BODs. Figure 5.1 summarizes the supportive relationships between individual constructs, as empirically tested in this study.

Figure 5.1: Supportive Framework for Listed Chinese Firms in Singapore between 2009 and 2011
5.3 Theoretical and Practical Implications

This section discusses the theoretical and practical implications of the empirical findings from this study. The CEO duality board leadership structure, which accounts for around 40% of the research sample, is consistently positively related to firm performance for the full sample of Chinese firms. In addition, firm incorporation also plays a positive moderating role on this CEO duality-firm performance relationship. These empirical results show a reinforcement of the stewardship theory for listed Chinese firms as an indicator, with which to review the relevant CG codes issued by regulatory authorities on board leadership structure in relation to the board composition of publicly listed companies.

5.3.1 Theoretical Implications

This study offers evidence that requires a multi-theoretical approach (Lam & Lee, 2008) to interpret the CEO duality-firm performance relationship in association with the board composition in the context of listed Chinese firms in Singapore.

(i) CEO Duality

The empirical evidence from regression analysis, along with prior studies in Chinese firms (Peng et al., 2010; Peng et al., 2007; Van Essen et al., 2012; Yu, 2008), reinforces the stewardship theory that CEO duality is statistically significant to predict a positive relationship to firm performance in the full sample of Chinese firms in Singapore, in particular those non-Singapore incorporated firms. In addition, this CEO duality-firm performance relationship is also positively moderated by firm incorporation in Singapore for the full sample of Chinese firms. Meanwhile, the results from t-tests show that there are significant differences in performance means between Singapore incorporated and non-Singapore incorporated firms in the full sample of Chinese firms and the sub-sample of firms with CEO non-duality, suggesting that the CEO duality-firm performance
relationship is contingent upon firm incorporation. However, there is insufficient evidence to show there are differences in the performance means between Singapore incorporated and non-Singapore incorporated firms (refer to Table 4.10) and to suggest a CEO duality-firm performance relationship (refer to Table 4.12), from the sub-samples firms with CEO duality and Singapore incorporation, respectively. This indicates that Singapore incorporated Chinese firms have a different CG “behavior” from those non-Singapore incorporated Chinese firms.

For non-Singapore incorporated Chinese firms, which largely comprise the Singapore subsidiaries of parent companies incorporated in a third jurisdiction other than China and Singapore, such as Bermuda, British Virgin Islands, Cayman Islands and Hong Kong, the potential benefits from separating CEO and COB are less than the costs of CEO nonduality (Brickley et al., 1997). This supports the stewardship theory that executives are motivated by intrinsic rewards, organizational identification, opportunities for growth and satisfaction from the use of power (Davis et al., 1997), and that minimal board independence helps to promote board unity (Muth & Donaldson, 1998) to act in the interests of the shareholders for superior corporate performance. From the western point of view, CEO duality increases the chance of managerial opportunism in firm management from risk-taking propensity (Kim et al., 2008; Kim & Buchanan, 2008), which is essential for improving firm performance and is contingent upon the economic situation of Singapore after the financial crisis. Meanwhile, in the Chinese cultural context, guanxi with stronger and wider internal and external relationships is a substantial factor for driving managerial progression (Wong & Slater, 2002) to the top position of CEO/COB. Thus, a leader with CEO duality and a high quality of guanxi (X. P. Chen & Chen, 2004) will formulate a successful mix of both to positively impact on the efficiency and effectiveness of firm operation (Luo & Chen, 1997) for superior firm performance.

However, for the Singapore incorporated Chinese firms, there is insufficient evidence to conclude that there is a relationship between CEO duality and the financial performance of firms. On the one hand, Chinese firms with CEO duality have homogeneity in firm
performances among Singapore incorporated and non-Singapore incorporated firms. This again reinforces the stewardship theory and guanxi in Chinese firms, such that performance is consistent among those firms with a CEO duality board leadership. On the other hand, while operating fully under the CA in the developed legal and regulatory environment of Singapore, there is insufficient evidence to support a positive relationship between CEO duality and firm performance in Singapore incorporated Chinese firms alone. In fact, Singapore is ranked highest among Asian countries (including China, Indonesia, Malaysia, Philippines and Singapore) for law and order (Demirguc-Kunt, Love, & Maksimovic, 2004). This result matches the institutional theory and suggests that Singapore incorporated firms are influenced by normative pressure from external legal requirements (Zucker, 1987) to appoint a higher proportion of outside directors than non-Singapore incorporated firms (refer to Table 4.3); in which there is an information asymmetry between inside and outside directors which may affect the board processes for quick market response, such that firms having substantial growth options (Heaney, 2009) may not necessarily increase firm competitiveness by CG code compliance (DiMaggio & Powell, 1983). However, the impact of board independence is offset by the relatively smaller board size of Singapore incorporated firms compared to non-Singapore incorporated firms (refer to Table 4.6) which also lowers the leverage of environmental linkages to firms for critical resources from the resource-dependence view (Pfeffer & Salancik, 1978). In fact, the average board size of Chinese firms is relatively smaller than the average board size of other SGX-listed firms as compared in prior studies (Mak & Kusnadi, 2005; Pei, 2012). Hence, these additional boardroom characteristics of Singapore incorporated firms increase their firm complexity to significantly predict a CEO duality-firm performance relationship for this particular group of Chinese firms.

Nevertheless, the positive impact of CEO duality on firm performance in the full sample of Chinese firms is further positively moderated by the firm incorporation in Singapore. This indicates that the CEO duality-firm performance relationship is indeed contingent upon the external regulatory environment of Singapore to enhance the stewardship of corporate leaders in the dual leadership role of CEO/COB. In addition, the firm
incorporation effect may also reduce uncertainty for firms to access critical resources in the post-GFC economic situation in Singapore. Hence, the empirical findings offer support for both the contingency theory and resource-dependence theory, and that is in line with prior studies in mainland Chinese firms (Peng et al., 2010; Peng et al., 2007).

(ii) Board Composition

From the empirical results, board independence, by means of the proportion of independent directors on BOD, works in balance with other board elements. First, a positive relationship between board independence and CEO duality (refer to Table 4.7) is in line with the agency theory that CEO duality board leadership structure increases agency costs to listed Chinese firms. This implies a greater need for monitoring by outside directors on the board (He & Sommer, 2010), especially in the post-GFC situation when firm performance deviates from prior performance (Tuggle et al., 2010). Meanwhile, board independence, from the stewardship theory’s perspective, is reflected by its negative relationship with firm performance (refer to Table 4.14). This indicates a lower proportion of independent directors on the board helps to promote the unity of the board with a majority of inside directors (Muth & Donaldson, 1998), which also lowers the effect from information asymmetry between inside and outside directors, especially when growth options are highly involved (Heaney, 2009) in Chinese firms. Although the results are in contrast to the study by Lu et al. (2011) on overseas-listed Chinese firms in Hong Kong, Singapore, U.S. and U.K. which suggests that firms having more than three independent directors on their boards are likely to increase their post-listing performance, their study relies on a firm sample mixed with large SOEs and without addressing the impact from the 2008 GFC, whereas the findings of this study are largely based on post-GFC data from a sample of mixed smaller sized SOEs and POEs. Thus, there is a tradeoff between the rising agency costs from CEO duality with the need for more outside directors on boards, and the benefits from the unity of command that are essential to quick response to growth options, particularly after the 2008 GFC.
The empirical results for board size support that board size is inversely related to CEO duality (refer to Table 4.8) and firm performance (refer to Table 4.14). This evidence of a negative relationship of board size to both CEO duality and firm performance is also in line with various prior studies in Singapore (Heaney, 2009; Mak & Kusnadi, 2005), Asia (Van Essen et al., 2012) and around the world (Cheng et al., 2008; Drakos & Bekiris, 2010). A smaller board size helps to balance the negative impact from a higher proportion of independent directors with CEO duality board leadership on firm performance, in which a relatively smaller board finds it easier to reach consensus to take more risky investments (Wang, 2012). However, all that is contingent upon the complexity of Chinese firms (C. H. Chen & Al-Najjar, 2012) in the post-GFC situation.

The empirical evidence indicates that the presence of nomination committees is positively related to firm performance in the full sample of Chinese firms and the sub-sample of non-Singapore incorporated firms, while all Singapore incorporated firms have already formed their nomination committees prior to this research. From the perspective of agency theory, the role of a nomination committee works along with board independence to monitor the BOD on behalf of the shareholders. However, when the nomination process falls under the influence of a powerful board leader (Baldenius, 2013), this may lead to fewer independent director appointments to the board (Shivdasani & Yermack, 1999). From the western point of view, cronyism is often perceived from the lack of an independent nomination committee, whereby directors who have social ties to the CEO or whose demographic profiles match the top managers are more likely to be appointed to the nomination committee (Bilimoria & Piderit, 1994). This director selection process fails to align directors’ interests with the interests of the shareholders (Westphal & Stern, 2007). From the perspective of guanxi, a highly independent nomination committee limits the xing (trust) and qing (feeling) in the nomination process and that may negatively affect the quality of quanxi (X. P. Chen & Chen, 2004) for the efficiency and effectiveness of Chinese firms’ operations (Luo & Chen, 1997). Nevertheless, the presence of nomination committees has a positive effect on the financial performance of Chinese firms, which is in line with the prior studies in Hong Kong (Lam & Lee, 2008,
However, the performance of a nomination committee may depend on the balance between committee independence and the *guanxi* quality of its composition.

(iii) Summary of Theoretical Implications

The relationship between CEO duality and the financial performance of listed Chinese firms can largely be explained by the stewardship theory, with the support for the contingency theory, in the post-GFC economic situation in Singapore. However, the empirical results from Singapore incorporated Chinese firms alone show an insignificant CEO duality-firm performance relationship under the influence of institutional theory in between the arguments of agency theory and stewardship theory on CEO duality and firm performance. Moreover, firm incorporation in Singapore is indeed a *quasi-moderator* to *positively* enhance the CEO duality-firm performance relationship by reducing uncertainty to firms when accessing critical resources in the post-GFC economic situation in Singapore. This enhancement by the moderation of firm incorporation in Singapore offers support for both the resource-dependence theory and the contingency theory. In addition, the empirical evidence from the testing on board independence also provides support for the agency theory and the stewardship theory in its relationship to CEO duality and firm performance, respectively. Meanwhile, board size and the presence of nomination committees work in balance and in parallel with board leadership and board independence. On the one hand, the finding shows support for the agency theory from limiting the board size that is not favorable to the resource-dependence theory for leveraging a firm’s environmental linkages by a larger board for critical resources. On the other hand, the independence and *guanxi* quality of the nomination committee also play a balancing role in the *positive* relationship between the presence of nomination committees and firm performance. Hence, all board elements work in balance together for developing the optimal board dynamics in order to improve firm performance.
5.3.2 Practical Implications

In Singapore, the regulatory and CG systems are based on the Anglo-American model, which relies on the market mechanism for corporate control (Kimber & Lipton, 2005). The first CCG of Singapore (CCG, 2001) was largely inspired by the Cadbury Report from the U.K. stressing the “best practice” of separating the board leadership (COB) and the corporate leadership (CEO) into two individuals to ensure an appropriate balance of power with adequate board independence for monitoring and control. Under the assumption of agency theory, CEO duality is assumed to be a deviation from “best practice”, which requires special monitoring by the BOD. In further promoting this “best practice” in Singapore, the code provision on CEO duality escalates from ...companies may appoint an independent non-executive director to be the lead independent director where the Chairman and the CEO is the same person (CCG, 2005, p. 5), to the latest provision that ...the independent directors should make up at least half of the Board (CCG, 2012, p. 4) from at least one-third of the Board with CEO non-duality. However, the promotion of the “best practice” in CG has no direct link to organizational performance improvement (Heracleous, 2001), especially with the empirical evidence from prior studies in Chinese firms suggesting that CEO duality is indeed positively related to firm performance (Peng et al., 2007; Van Essen et al., 2012; Yu, 2008).

Meanwhile, the increasing normative pressure on Chinese firms incorporated under the CA of Singapore reflects a different “behavior” on this CEO duality-firm performance relationship from their non-Singapore incorporated counterparts. Mainland Chinese firms generally operate under the two-tier CG framework (refer to Figure 2.2) with an additional supervisory board that is directly responsible to the shareholders mainly in the role of ex post supervision (OECD, 2011). The countermeasure of board monitoring provision from escalating the requirements on board independence by the CG code may set an invisible hurdle for the stewardship of CEO duality, to the extent that Chinese firms are finding their own way to balance their board figures in compliance with the CG code. In order to comply with the required proportion of independent directors on BOD, the
board sizes of listed Chinese firms are relatively smaller than other listed firms in Singapore. For instance, before the introduction of CCG 2001, the average board size of SGX-listed firms during 1999 – 2000 was 7.27 (Mak & Kusnadi, 2005), as listed in Table 3.5. After the implementation of CCG 2001, the average board size of SGX-listed firms during 2002 – 2003 was 7.31 (Pei, 2012), as shown in Table 3.6. Subsequently, after the implementation of CCG 2005, the comparable Chinese board sizes between 2009 and 2011 are averaged at 6.66 (refer to Table 4.6), which is relatively smaller than other SGX-listed firms from prior studies.

For the regulatory authorities, the implications of this study are generally initiated from the concentration of the authorities’ converse views from agency theory to strengthen the monitoring clauses in their CG code provisions. The empirical evidence from the intermediate and immediate literature review on prior studies in CEO duality (refer to Table 2.2) are mainly inconclusive as to whether it is favorable or not favorable to the “best practice” of governance regarding the board leadership structure, as stated in various CG codes in Singapore, U.K. and Hong Kong (CCG, 2012; FRC, 2012; HKEx, 2012), which are largely inspired by the Cadbury Report that is in favor of separating the positions of COB and CEO (Cadbury, 2002) from the perspective of agency theory. However, the relationship between board leadership structure and firm performance is contingent upon a firm’s complexity, along with its external environment. The CEO duality-firm performance relationship in Chinese firms can generally be explained by the stewardship theory which opposes the dominating agency theory’s view in most CG codes. The addition of monitoring elements in the Singapore CCG 2012 may pull firms further away from “best practice” rather than guiding them towards better CG. For instance, the latest CG code provision requires independent directors to make up at least half of the board with CEO duality. A firm’s board process may be interfered with by this code provision, in particular when Chinese firms have strong ties to mainland China that are under the influence of guanxi. In order to comply with the CG code, Chinese firms may choose to minimize their board sizes in order to gain higher proportion of independent directors which is not favorable to firms according to resource-dependence
theory. Hence, the regulatory authorities may consider reviewing their CG codes in the balancing of different theoretical views as discussed in this study. The agency theory’s view of “best practice” on CEO duality board leadership is still inclusive according to the empirical evidence from studies in CG.

The implications for practitioners, however, concentrate on balancing board independence, board size and the board nomination process with CEO duality leadership structure. First, the determination of the impact from different board leadership structures (CEO duality or non-duality) does not stand alone, but also relies on other board characteristics to match it with the right dynamics in the board processes for superior board performance (Wan & Ong, 2005). One of the key board functions in linking all the board elements may perhaps be the nomination processes for board appointments. Second, the empirical findings from this study support the hypothesis that the presence of nomination committees is positively associated with firm performance in listed Chinese firms. Similar results are also found in studies from Hong Kong (Lam & Lee, 2008, 2012). Although the code provision on the composition of nomination committees remained unchanged between CCG 2005 (CCG, 2005, p. 5) and CCG 2012 (CCG, 2012, p. 8) stating that ...the NC should comprise at least three directors, the majority of whom, including the NC Chairman, should be independent; however, a larger committee size may allow more executive directors to join the nomination committee to provide operational inputs to the nomination processes in balancing between committee independence (from the agency theory’s view) and managerial leadership (from the stewardship theory’s view) for the appointments of all directors to the BOD, in order to optimize board independence and board size. It is, in essence, a practicality to nominate the right mix of directors on the BOD for process-oriented boardroom dynamics (Huse et al., 2005) in order to engage in quality decision-making processes (Bailey & Peck, 2013) in enhancing the board performance (Wan & Ong, 2005). This implies appropriate board monitoring with sufficient supports for the board leadership of CEO duality for superior firm performance owing to the complexity of Chinese firms in Singapore.
5.4 Limitations and Directions for Future Research

This section discusses the research limitations of this study and the directions for future research. As it was conducted under certain limiting conditions, this study does not widely cover all concerned issues in relation to the CEO duality board leadership structure of overseas-listed Chinese firms in Singapore, and there are suggested directions for further research listed in the second sub-section.

5.4.1 Research Limitations

Despite the empirical tests employed, there are several limitations of this study. First, some of the independent variables may be endogenous variables. Employing OLS regressions in the presence of endogenous variables as explanatory variables may lead to empirical issues, such as the endogeneity bias and the direction of causality problems between CEO duality and firm performance. Second, the efficiency of the estimates obtained in this study would have improved by employing panel data regressions instead of OLS regressions on firm-year observations. Third, while this study selects only an accounting-based indicator (\(\triangle\)ROA) of firm performance for analysis, the absence of robustness tests by using market-based performance indicators may limit the merits of the research findings of this study. Fourth, the industry dummies are not used in the regressions to control for the industry effects in the given sample.

Meanwhile, this study focuses on investigating the relationship between board leadership structure and the financial performance of firms in terms of the annual rate of change in ROA (\(\triangle\)ROA), with an examination of the moderating effect of firm incorporation (Singapore incorporation and non-Singapore incorporation) on this CEO duality-firm performance relationship of listed Chinese firms in Singapore between 2009 and 2011. This group of China-based firms comprises mixed smaller sized SOEs (annual earnings less than 100 million CNY) and POEs with their parent companies and business operations in China. Unlike their counterparts listed in Hong Kong and the U.S.,
comprising largely the best Chinese SOEs (Huang & Song, 2005) often with political leadership appointments, the structure and ownership of this group of Chinese firms are mainly privatized SOEs and founders’ families (Allen et al., 2005). Chinese firms in Singapore are a unique group of overseas-listed Chinese firms under mixed influences of professional management with guanxi quality, and family controls from family-based leadership appointments, such that the empirical findings from this study may not be comparable with or transferable to other groups of mainland Chinese companies listed on the Hong Kong, U.S. and U.K. stock exchanges (J. W. Lu et al., 2011).

Furthermore, this study is based on the assumption of “best practice” in CG, such as the separation of the board leadership and corporate leadership to two individuals, to link to better firm performance. However, CG is a multi-dimensional “system”, which includes the interrelations between different elements by which companies are directed and controlled (FRC, 2012). Similarly to prior empirical studies on board leadership, this study attempts to examine the direct association between CEO duality and firm performance by measuring only the financial variation from the annual rate of change of an accounting ratio ($\triangle$ ROA). This measurement may not fully reflect the multi-dimensional aspects of board leadership in the CG “ecology”, such that a combined quantitative and qualitative multi-level study with an integration of micro and macro domains in governance (Dalton & Dalton, 2011) may be more appropriate to study the board leadership-firm performance relationship. Furthermore, board process is also related to board performance (Wan & Ong, 2005), which is assumed to support the board leadership for superior firm performance. However, this study is solely based on secondary data and the primary board process data is not observed.

In addition, the study of the effect from firm incorporation between Singapore and non-Singapore (Bermuda, British Virgin Islands, Cayman Islands, China, Hong Kong) company registrations includes subjects in other legal, taxation and regulatory areas. This study only briefly discusses and compares the legal systems between China (German legal origin) and Singapore (English legal origin), and the international tax treaty
information between Singapore and other jurisdictions with SGX-listed Chinese-incorporated firms. These discussions and comparisons are very limited and beyond the scope of this study for examining board leadership structure and firm performance, but, rather, they may be of interest to academia in the legal and taxation disciplines if they choose to examine the concerned CG issues through different lenses.

5.4.2 Directions for Future Research

The relationship between board leadership structure and firm performance is widely discussed in the literature. However, there is limited qualitative evidence on the actual processes inside the boardroom (Wan & Ong, 2005). Qualitative data from inside the BOD may provide supplementary observations to quantitative studies based on secondary data alone. Furthermore, there are also limited studies on the impact of board leadership on firm performance in the context of the Chinese cultural construct of guanxi. Figure 5.2 schematizes the conceptual framework for the potential impact of board process and guanxi on the relationship between CEO duality and firm performance for future research.

In Singapore, there are new CG code provisions included in its CCG 2012 to strengthen the internal controls of listed firms, such as the disclosure of the link between remuneration and performance (Guideline 9.6), a new section on ‘Risk Management and Internal Controls’ (Principle 11 and Guideline 11.4), assurance from the CEO and chief financial officer (CFO) (Guideline 11.3), a lead independent director appointment (Guideline 3.3), etc. Future research can also be directed to examine whether these new guidelines have any impact on board leadership structure and board dynamics within the boardrooms of listed Chinese firms in Singapore.
Figure 5.2: Conceptual Framework for Future Research

CEO Duality

Board Process

Guanxi

Firm Performance
5.5 Chapter Summary and Conclusion

The impacts from the 2008 GFC and the series of corporate scandals on listed Chinese firms in Singapore is significantly reflected by their market performance in 2008 (refer to the FTSE ST China Index in Figure 3.3). However, due to the “China” effect in their company names (Bae & Wang, 2012) and their strong ties with the mainland Chinese networks (Ewing et al., 2000), the market performance of listed Chinese firms promptly rebounded by rebuilding their stock preference to investors. This was achieved by assuring the investors that S-chips are still a comparatively economic choice with more direct exposure to China’s economic momentum than other investment options in the market. Besides their post-GFC market performance, the CG of those listed Chinese firms in Singapore was also focused by the authorities to review and subsequently revise their CCG in 2012. The purpose of this study is to examine the impact of board leadership structure on the financial performance of listed Chinese firms under the previous CCG 2005, in which Chinese firms were contingent upon the post-GFC economic situation in Singapore, but also with their overwhelming business operations in China. While there are over 40% of Chinese firms with their company incorporation outside of Singapore, it is also the special interest of this study to examine the moderating effect from firm incorporation on the relationship between board leadership structure and firm performance.

This chapter first discusses the empirical findings as presented in Chapter 4. In line with the prior studies in mainland Chinese firms (Peng et al., 2007; Van Essen et al., 2012; Yu, 2008) and in particular POEs (Peng et al., 2010), the empirical results show that there is a positive association between CEO duality and the financial performance of the full sample of listed Chinese firms in Singapore, which offers support for the stewardship theory. This is in contrast with the agency theory’s view of “best practice” suggested by various CG codes that require more independent monitoring of this CEO duality leadership on boards. The finding from non-Singapore incorporated Chinese firms is consistent with the full sample, but there are inconclusive findings from those Singapore
incorporated firms. Singapore incorporated firms are under normative pressure to comply with CCG 2005 that, according to institutional theory, may not significantly predict firm performance from the compliance (DiMaggio & Powell, 1983). Nevertheless, by testing the full sample of Chinese firms, firm incorporation is a quasi-moderator to positively affect the association between CEO duality and the financial performance of firms. This finding favors the contingency theory, that the stewardship of CEO duality in Chinese firms is indeed positively contingent upon Singapore incorporation in relation to firm performance.

In addition, other empirical findings in this study can also be explained by various theories. There are opposing relationships between board independence and board size with CEO duality that support the agency theory. On the one hand, CEO duality board leadership structure increases agency costs to listed Chinese firms, which implies a greater need for monitoring by outside directors on the board (He & Sommer, 2010) and limiting their board sizes (Jensen, 1993), especially when firm performance deviates from prior performance after the financial crisis (Tuggle et al., 2010). This reflects the fact that Chinese firms were under great pressure, while surrounded by corporate scandals after the 2008 GFC, to increase their board independence by appointing more independent directors onto their BODs. On the other hand, the board sizes of Chinese firms are primarily driven by firm complexity (C. H. Chen & Al-Najjar, 2012), and there is an information asymmetry between inside and outside directors, especially when growth options are highly involved (Heaney, 2009) in Chinese firms with strong business ties and business networks with China (Ewing et al., 2000). There are higher costs incurred to reach agreements than the benefits from a larger board (Ning et al., 2010) with a CEO duality leadership structure. However, this contradicts with the resource-dependence theory that a smaller board size may limit a firm’s leverage to the environmental linkages in reducing the impact from the environmental uncertainty (Pfeffer & Salancik, 1978).

Meanwhile, there are certain limitations with this research. First, there are several research limitations for consideration in interpreting the empirical results from this study.
Second, only secondary quantitative data is used to explain the rather complex CG issues in Chinese firms under the influence of guanxi, and the qualitative board dynamics in the board processes are not examined. These issues also play an important role in board performance (Wan & Ong, 2005) with CEO duality board leadership, to an extent, affecting firm performance. Third, there are limited discussions from legal and taxation aspects on the firm incorporation issues, which initiates other investigation interests in the impact of overseas registration, particularly in the tax havens (Hines Jr., 2010), on the relationship between board leadership structure and firm performance.

In summary, the empirical findings from this study require a multi-theoretical approach (Lam & Lee, 2008) to interpret the multidimensional board-firm performance relationship. The association between board leadership structure and the financial performance of Chinese firms in Singapore is once again supported by the stewardship theory, which is contingent upon the post-GFC economic situation in Singapore and the firms’ strong ties with business networks in China. The institutional influence of firm incorporation in Singapore also positively moderates this CEO duality-firm performance relationship, along with the support for the agency theory on board independence and board size with CEO duality board leadership. However, the concerted intention of the Singapore authorities, from the perspective of agency theory, to further strengthen the monitoring clauses in their CG code may increase normative pressure on Chinese firms which may constrain the performance of their stewardship leaders. This will motivate Chinese firms to limit their board sizes in order to comply with the requirements for increasing the proportion of independent directors on boards with CEO duality. Nevertheless, for the CG practitioners in Chinese firms, the core linkage between different board elements may perhaps be the presence of a balanced (independence with substantial managerial inputs) nomination committee which is consistently positively related to firm performance. This is, in essence, a practicality to nominate the right mix of board demographics for process-oriented boardroom dynamics (Huse et al., 2005) in order to engage in quality decision-making processes (Bailey & Peck, 2013) and enhance the board performance (Wan &
Ong, 2005) for monitoring, as well as supporting the board leadership of CEO duality for superior firm performance.

In conclusion, the empirical findings support the stewardship theory in the board leadership structure of listed Chinese firms in Singapore, and this is contingent upon firm incorporation under the CA of Singapore. This is in contrast to the Singapore CG code which is largely inspired by the Cadbury Report from the U.K. and developed from the perspective of agency theory. This difference between the two contrasting views between agency theory and stewardship theory leads the Singapore authorities and CG practitioners in Chinese firms to go in two opposite directions. On the one hand, listed Chinese firms are generally favored by the contingent regulatory environment of Singapore in promoting their CEO duality board leadership for the positive impact on their firm performance. On the other hand, the CEO duality board leadership in Singapore incorporated firms is also highly influenced by the institutional rules on restricting their stewardship leaders by imposing “board independence” into their boardrooms. Nevertheless, Chinese firms incorporated in Singapore, in general, perform better than those non-Singapore incorporated Chinese firms. It is therefore suggested that the empirical findings of this study could be referenced to the regulatory authorities as well as the CG practitioners in Chinese firms, with a more comprehensive and balanced view from different theoretical perspectives, to review and enhance their CG code provisions and boardroom strategies towards better practice of governance in corporations in the future.
References


Appendix

Summary of Prior Studies in the Effect of CEO Duality on Firm Performance with Evidence from the United States
(Source: Table 1 of Krause, Semadeni and Cannella Jr., 2014, p. 259-260)
Table 1
Effect of CEO Duality on Firm Performance

<table>
<thead>
<tr>
<th>Citation</th>
<th>Relevant Findings</th>
<th>Empirical Setting</th>
<th>Performance Measure(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily and Dalton (1992)</td>
<td>No effect on performance</td>
<td>100 fastest-growing small publicly held U.S. firms in 1990</td>
<td>ROA, ROE, P/E ratio</td>
</tr>
<tr>
<td>Daily and Dalton (1993)</td>
<td>No effect on performance</td>
<td>186 small publicly traded U.S. firms (fewer than 500 employees and less than $20 million in revenue) in 1990</td>
<td>ROA, ROE, P/E ratio</td>
</tr>
<tr>
<td>Daily and Dalton (1994a)</td>
<td>Negative effect on performance, strengthened by percentage of affiliated directors on the board</td>
<td>114 publicly traded U.S. manufacturing, retail, and transportation firms between 1972 and 1982</td>
<td>Bankruptcy</td>
</tr>
<tr>
<td>Daily and Dalton (1994b)</td>
<td>No main effect on firm performance, but strengthened the positive effect of board independence on firm performance</td>
<td>100 publicly traded U.S. manufacturing, retail, and transportation firms in 1990</td>
<td>Bankruptcy</td>
</tr>
<tr>
<td>Baliga, Moyer, and Rao (1996)</td>
<td>Changes in duality had no effect on performance</td>
<td>375 <em>Fortune</em> 500 firms between 1980 and 1991</td>
<td>CAER (cumulative average excess returns), ROE, ROA, operating cash flow as a percentage of assets, operating cash flow as a percentage of sales, MVA ROI, stock return, CAR</td>
</tr>
<tr>
<td>Brickley, Coles, and Jarrell (1997)</td>
<td>Some evidence for a positive effect; no evidence for a negative effect</td>
<td>661 large publicly traded U.S. firms in 1988</td>
<td>-</td>
</tr>
<tr>
<td>Worrell, Nemec, and Davidson (1997)</td>
<td>Consolidation of CEO and board chair roles had negative effect</td>
<td>522 CEO plurality-creating events at 438 <em>Businessweek</em> 1000 firms between 1972 and 1990</td>
<td>CAR</td>
</tr>
</tbody>
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(continued)
<table>
<thead>
<tr>
<th>Citation</th>
<th>Relevant Findings</th>
<th>Empirical Setting</th>
<th>Performance Measure(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dalton, Dainty,</td>
<td>No overall correlation with firm performance</td>
<td>Meta-analysis of 31 studies (69 samples, ( N = 12,915 ))</td>
<td>Market and accounting performance indicators</td>
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<tr>
<td>Ellstrand, and</td>
<td></td>
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<tr>
<td>Johnson (1998)</td>
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<tr>
<td>Davidson, Nemece,</td>
<td>CEO board chair consolidation had negative effect only if heir apparent was not present</td>
<td>421 CEO succession events at 332 Businessweek 1000 firms as of 1992</td>
<td>CAR</td>
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<tr>
<td>and Worrell (2001)</td>
<td></td>
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<td></td>
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<tr>
<td>Ballinger and</td>
<td>Weakened the negative effect of interim CEO successions on firm performance</td>
<td>540 CEO succession events at S&amp;P 1500 firms between 1996 and 1998</td>
<td>ROA, Tobin’s ( q ), bankruptcy</td>
</tr>
<tr>
<td>Marcel (2010)</td>
<td></td>
<td></td>
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<tr>
<td>Quigley and</td>
<td>Former CEO staying on as board chair reduced performance change following a CEO succession</td>
<td>181 CEO succession events at publicly traded U.S. high-technology firms between 1994 and 2006</td>
<td>ROA, stock return</td>
</tr>
<tr>
<td>Hanbrick (2012)</td>
<td></td>
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<tr>
<td>Krause and</td>
<td>CEO-board chair separation had positive effect following weak performance, but negative effect following strong performance; held primarily for “demotion” separations</td>
<td>1,053 S&amp;P 1500 and Fortune 1000 firms between 2002 and 2006</td>
<td>Stock return, mean analyst rating</td>
</tr>
<tr>
<td>Semadeni (2013)</td>
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*Note: CAR = cumulative abnormal return; MTB = market-to-book ratio; MVA = market value added; P/E = price-earnings ratio; ROA = return on assets; ROE = return on equity; ROI = return on investment.*