A study of the relationship between independent non-executive directors (INEDs) and company performance

By

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Abstract

This study examines the influence of and relationship between independent non-executive directors (INEDs) and the performance of firms listed on the Hong Kong Stock Exchange (SEHK). Many studies argue that INEDs can improve corporate governance and firm performance. Research in this area is on-going in different countries and stock exchanges and has produced inconsistent conclusions. The results of this study should help in reviewing the suitability of the current INED standards and whether they can be applied to different firm segments in Hong Kong.

Given the stringent INED requirements applied to SEHK-listed companies over the last 20 years, a comprehensive literature review is conducted to provide supportive evidence and investigate whether increased INED presence is beneficial. INEDs have different effects on firm performance across different segments in Hong Kong. The effects are inconsistent across companies in Hong Kong and insignificant for HSI constituent companies in general. This observation is supported by some researches that find no connection between board independence and firm performance. However, increasing the number of INEDs has strong positive effects on firm performance in the growth enterprise market, negative effects on the performance of H-share companies in China and insignificant effects on the performance of red chip companies in China. The effects are inconsistent for family-controlled firms, but generally positive for non-family-controlled firms. The policy of increasing INED presence should be tailored to different market segments based on agency and resource dependence theory.

This study also discusses the optimal INED proportions (different from the current one-third INED ratio in Hong Kong) for Hong Kong markets. It aims to help policymakers/regulators determine whether further revision of the current INED policy is

necessary.

The results can be further investigated and applied to other emerging markets/regions worldwide and may be particularly suitable for regions with many family-controlled and state-owned enterprises.

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Glossary of key technical terms

A-shares: Renminbi-denominated ordinary shares for domestic residents and institutions to invest in the Shanghai Stock Exchange (SSE) and Shenzhen Stock Exchange (SZSE).

Code: The HKEx Code of Corporate Governance Practices.

CSRC: China Securities Regulatory Commission, a ministerial-level public institution operating directly under the State Council. It performs a unified regulatory function in China's securities and futures market according to relevant laws and regulations and with authority given by the State Council. It maintains an orderly securities and futures market and ensures the legal operation of the capital market.[1]

ETF: Exchange traded fund, a marketable security that tracks an index, a commodity, bonds or a basket of assets like an index fund.

HKEx: Hong Kong Exchanges and Clearing Limited, which operates a securities market (SEHK) and a derivatives market in Hong Kong and the clearing houses for those markets.

H-shares: Companies incorporated in mainland China and whose listings in Hong Kong are approved by the China Securities Regulatory Commission (CSRC). Shares in these companies are listed in Hong Kong, subscribed for and traded in Hong Kong dollars or other currencies and referred to as H-shares. The letter 'H' stands for 'Hong Kong'.

INED: Independent non-executive directors / independent directors.

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[1] http://www.csrc.gov.cn/pub/csrc_en/about/

IPO: Initial public offering, a type of public offering in which the shares of a company are sold to the general public on a securities exchange with the assistance of an underwriting firm.

OECD: Organization for Economic Co-operation and Development. Its mission is to promote policies that will improve the economic and social well-being of people around the world.[2]

Red chips: Companies incorporated outside of mainland China and ordinary shares traded by foreign legal and natural persons and traded in currencies (US or Hong Kong dollars) other than renminbi.

SEHK: Hong Kong Stock Exchange.

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[2] http://www.oecd.org/about/

Certification

I certify that the work in the thesis A STUDY OF THE RELATIONSHIP BETWEEN INDEPENDENT NON-EXECUTIVE DIRECTORS (INEDS) AND COMPANY PERFORMANCE has not previously been submitted for a degree nor has it been submitted as part of the requirements for a degree to any other university or institution other than Macquarie University.

I also certify that the thesis is an original piece of research and has been written by me. Any help and assistance I received during the research period and the preparation of the thesis itself has been acknowledged appropriately.

In addition, I certify that all of the information sources and literature used are indicated in the thesis.

No ethics approval was sought from Macquarie University, as all of the data used in this research are secondary data taken from different databases.

Kevin Li Chi Keung, student ID No. 41391004

15 December 2015

Acknowledgement

This thesis would not have been completed in last the 5-6 years without the support of many people, especially my principal supervisor and the adjunct supervisor. The library staffs of the Open University of Hong Kong and Macquarie University also helped me to download some important data from different sources.

I appreciate the chance I have been given to pursue a DBA degree in learning different research skills, especially given the difficulties and compromises made in my work and family lives. While preparing and writing this thesis, I was married and became the father of two children. The continuous illness of my spouse and the births (in 2012 and 2014) and raising of my two children made life complicated. I simultaneously had to work full time as a teacher, develop distance learning courses, research this thesis and complete a conference paper. It was difficult to balance this work within a very tight schedule.

I plan to continue my journey as a researcher and contribute to future business, accounting and finance research.

Last but not least, I express my deepest gratitude to my principal supervisor, Professor Richard Petty, for his guidance in completing the thesis. The help provided by the teaching and administrative and support staff of MGSM and especially Professor Petty were beneficial to my development as an academic and a researcher.

Forward: DBA degree requirements

As advised by the doctoral program director, the university's requirements for the degree of Doctor of Business Administration are quoted as follows for easier reference.

'A thesis submitted for the degree of Doctor of Business Administration is to be evaluated according to the following criteria: (a) That it affords evidence of making a distinctive contribution to the improvement of professional practice or policy. (b) That it is satisfactory as regards its literary presentation. . . . [Furthermore,] comment is sought from the examiner as to evidence of originality shown either by the exercise of independent critical judgment, discovery of new facts or use of innovative methodology.'

Motivation and key concerns of this study

After decades of debate over the effective running, monitoring and control of management and business, this study focuses on the importance of corporate governance. Different crises have arisen over the last 20 years such as the Asian financial crisis in 1997, the dot-com Internet bubble burst in 2001, financial scandals in 2002 (e.g., the scandals of Enron and WorldCom) and the recent financial crisis in 2008, which was triggered by the subprime mortgage crisis and the fall of the Lehman Brothers. Other recent cases include the collapse of MF Global in 2011 and Olympus in Japan in 2011 (some executives of Olympus's management had been given suspended jail terms for their roles in an accounting scandal).

Given the corporate governance measures implemented, such as the Cadbury report and Sarbanes-Oxley Act, this study explores the reasons behind the failure to detect the problem, especially given the implementation of revised requirements/ratios/numbers of independent directors in many areas of the world. What are the roles of these independent directors? Are they required by boards to ensure better firm performance? What are the underlying mechanisms for monitoring and even improving the operations and financial performance of different businesses, and how do they relate to the stringent INED requirements enacted by statutory authorities around the world?

The preceding issues and problems have influenced the author to conduct this study, which represents a major area of importance in corporate research (i.e., the effects of independent directors and financial performance).

Chapter 1. Introduction and Study Background

1.1 Introduction: Overview of the research and results

This study aims to present an overview and analysis of the effects of changes in corporate governance and the emergence of stringent INED requirements for companies in Hong Kong as requested by the SEHK. This chapter highlights the developments and main focus of changes in corporate governance, especially those relating to board of director composition and INED requirements. It reveals the significance of the topic for this study along with the research objectives. It also provides an overview of the study, the theoretical structure of the research and the main concerns surrounding research development. Chapter 2 reviews the literature related to the effects of different attributes of corporate governance on firm performance and identifies and discusses the research gaps. Chapter 3 discusses the theoretical structure of the research and its underlying theory. Chapter 4 further elaborates the details of the research design and the sample collection procedures. Chapters 5, 6 and 7 present, analyse and discuss different company segments and the effects of independent directors on firm performance (including Hang Seng Index [HSI] constituent and GEM companies), listed Chinese companies (including H-share and red chip companies) and family-controlled and non-family-controlled businesses in Hong Kong.

This study particularly focuses on Chinese companies listed in Hong Kong. These companies, which are controlled by the Chinese government, have become increasingly important since the first company was listed in Hong Kong in 1993. It also focuses on family-controlled business in Hong Kong, as big families/tycoons in Hong Kong control almost all of the companies listed on the SEHK.

Two main findings affect the corporate governance policy-setting process and especially

the board composition regulations set forward by the Hong Kong financial authorities and SEHK:

1. Whether the effects of increases in the numbers of independent directors across different company segments in Hong Kong move in the same direction or the same magnitude and

2. Whether further increasing the ratio of independent directors on a board (of which INEDs currently comprise at least one third) should be reviewed based on other recommendations made by other regulatory authorities or stock exchanges around the world.

1.2 Problems and significance

1. Underlying motivation

This study is motivated by the author's experience over the past years as an investor and accountant who has actively compared the performance of different businesses across several financial crises. Businesses under poor corporate governance perform much worse during times of crisis than businesses under good governance. Corporate governance is a means of protecting minority shareholders from major shareholders (Mitton, 2002).

However, the author is unsure whether the success or failure of many companies around the world or in Hong Kong is actually affected by corporate governance attributes (and their levels), especially in terms of board composition and director changes. The findings related to whether corporate governance reforms in statutory regulations or financial reporting are adequate to improve firm performance remain mixed and strongly debated by different researchers around the world (Erkens, Hung, & Matos, 2012; Kirkpatrick, 2009; Mitton, 2002). Furthermore, the issue of whether the current corporate governance reforms may better prevent the next financial crisis has been the subject of many investor queries. These debates and queries have influenced the author to further examine the appropriate

corporate-governance-related measures or actions that may finally improve firm performance in the long run.

In general, there are two kinds of corporate governance control mechanisms: internal and external (Baber & Liang, 2008). The internal mechanisms monitor activities and then take corrective action to accomplish organisational goals. Of primary concern are the interactions between firm insiders and specifically management, directors and employees. The main areas include monitoring by boards of directors, the setting of remuneration packages and the use of internal auditors inside a business. However, external corporate governance controls usually include the controls that external stakeholders exercise over an organisation. Some examples include government regulations, media exposure, market competition, takeover activities and the public release and assessment of financial statements.

2. Review of the financial crises, corporate governance model and reform

After the Asian financial crisis in 1997; the company scandals of Enron, WorldCom and Tyco; the subsequent liquidation of Arthur Andersen (one of the Big 5 audit firm at that time) in 2001-2002; and the recent financial crisis triggered by the collapse of Lehman Brothers in 2008, different reviews and research conducted by various accounting bodies, government and investors around the world have explored the reasons why these financial crises, which were similar in nature, happened again and again despite the on-going corporate governance reforms enacted by various governments and stock exchanges. The fundamental question is how to avoid the next crisis if possible, particularly by way of better company governance.

The regulatory response to the Enron scandal in 2001 and collapse of WorldCom in 2002 was the passing of the Sarbanes-Oxley Act by the US Congress, which sought to reinforce

business integrity and market confidence (Bainbridge, 2007; Miller, Le Breton-Miller, Lester, & Cannella Jr, 2007) . The Act was a package of reform measures that aimed to improve the corporate governance, restore investor confidence and decrease the chances of similar problems occurring in the future. It put a lot of faith in making monitors more independent. The weakness of the auditing of companies such as Enron and others involved in scandals led to a reform of the audit committees, which were required to comprise only independent directors (Farrar, 2003; Finegold, Benson, & Hecht, 2007). Increasing the numbers of outside directors on boards was also emphasised, as they were considered important custodians of shareholders' interests (Duchin, Matsusaka, & Ozbas, 2010).

The US reforms sped up corporate governance reform in European Union countries, which exhibited differences across their one- and two-tiered board systems (Farrar, 2003).

Diagram 6.1 in Chapter 6 shows the major differentiations in international corporate governance models in relation to Chinese companies, including the one-tiered or unitary board in the US/UK, the two-tiered board in continental Europe and the China model (Tricker, 2012).

The market-oriented one-tiered model (Anglo-American model) can be divided into the American rule-based model and the UK/Commonwealth principles-based model.

According to Tricker (2012), the US does not have a code of corporate governance (based on principles) similar to that in the UK. Although the two-tiered board system is in place in continental Europe (e.g., Germany, Netherland, France and Italy), labour (through trade unions) can be elected to the supervisory and management boards in this model. The supervisory board oversees and appoints the members of the management board and must approve major business decisions. One criticism of this model is that outside independent

directors cannot join the management board to give advice and fulfil a monitoring role (Tricker, 2012).

3. Adverse selection problems

No matter which model a company is situated in, investors and potential investors are highly concerned about the adverse selection problem involved in selecting potentially poor companies. The problem is similar to that of potential buyers of used cars, who are frequently unable to assess the quality of a car (i.e., whether the car will run well or break down later) (Mishkin, 2009). Given the asymmetric information directors have, they are more likely to know whether a company is good or bad and whether it will perform well than the ordinary or potential investor. If the full details (financial information) about a company were provided, this asymmetric information could be eliminated. One way of solving the lemon problem is to let the rating agencies provide the information as required. However, due to the free-rider problem (some investors would just wait on the actions of others instead of purchasing the information themselves), less information would be provided by the rating agencies in this case. Hence, the government would provide the information by passing more regulations that require companies to give more information to the public instead. The problem is ensuring that this information reveals the truth and that an audited financial report can be trusted.

Hence, from the perspectives of investors, stock exchanges, financial reporting regulators and governments, monitoring and even improving the governance and performance of businesses are beneficial to business and economic development in the long run.

1.3 Research project objectives

This research project has the following objectives:

● to present an overview of the financial crises and their effects on corporate

governance reform;

- to illustrate the recent changes in the regulations related to board of director composition and its underlying rationale based on corporate governance reforms around the world;

- to discuss some of the key theories behind the relationship between board composition and corporate governance, particularly in terms of the recent changes in independent director requirements; and

- to evaluate whether the changes in independent director requirements affect the performance of companies in different business segments in Hong Kong.

The author chose this topic for analysis because he wants to contribute to the development of corporate governance and the policies of stock exchanges and governments around the world following the different financial crises that have taken place over the past 20 years.

1.4 Thesis structure

Given the evolution of the changes in corporate governance and its relationship to businesses, this study focuses on the following areas:

1. financial crises and the reforms, attributes, mechanisms and recent trends of corporate governance in different regions of the world;

2. changes in corporate governance regulation reforms and especially board composition and independent director requirements;

3. the theories behind the study of corporate governance, boards and performance; and

4. the relationship between board composition and business performance and its effects.

Table 1.1 presents the different parts and flow of the thesis.

Chapter	Title	Description
1	Introduction and Study Background	This chapter introduces the relevance of the topic and objectives of the research. It also provides an overview of the thesis layout, theoretical changes and changes in corporate governance reform.
2	Literature Review and Background	This chapter reviews the literature and identifies research gaps. It discusses the financial crises, evolution of corporate governance reform and different attributes of the relationship between board composition and business performance. It also discusses new regulations and the effects of independent director requirements.
3	Theoretical Framework, Empirical Design and Testable hypotheses	This chapter constructs a positive empirical model and sets up the different hypotheses.
4	Data Collection and Variable Measurements	This chapter discusses the dependent and independent variables. Data are collected from different databases and the financial reports of firms. Statistical analyses are conducted for different segments and firm

		classifications.
5	Hong Kong, Hang Seng Index (HSI) Constituent and GEM Listed Companies	This chapter discusses the effects of the relationship between INEDs and the performance of HSI, GEM and SEHK listed firms.
6	Chinese Companies Listed in Hong Kong	This chapter discusses the effects of the relationship between INEDs and the performance of H-share and Red Chip companies listed in Hong Kong.
7	Family- and Non-family-controlled Businesses	This chapter discusses the effects of the relationship between INEDs and the performance of family- and non-family-controlled firms.
8	Conclusion and Follow-up	This chapter outlines the main findings, conclusions and implications of the study and ties them back to the adopted theory and literature review.
9	Future Outlook and Implications	This chapter provides recommendations for future study.

Table 1-1 Thesis layout

1.5 Evolution of corporate governance reform

This study is motivated by an increasing awareness of the changes in regulations on

stringent corporate governance measures imposed by statutory organisations and stock exchanges in different countries that have occurred since the release of the Cadbury report in the UK in 1992. According to Cadbury Archive,[3] different corporate governance reports have been released at different stages, including directors' remunerations in the Greenbury Report (Greenbury_Report, 1995), better corporate governance practices in the Hampel Report (Hampel_Report, 1998) and the Principles of Good Governance and Code of Best Practice (Code) (1998). Also important is the Review of the Role and Effectiveness of Non-Executive Directors in the Higgs Report (Higgs_Report, 2003), which was commissioned by the UK government to review the role and effectiveness of non-executive directors and audit committees with the aim to improve and strengthen the Combined Code.

The importance of corporate governance and recommendations for improvement date back to the release of the Cadbury report in UK in 1992 after a series of business scandals and company collapses in 1991[4] (Nordberg, 2010). For example, public anger increased over the draining of capital from pension funds by Robert Maxwell and the failure of auditors to expose the impending bankruptcy of the Bank of Credit and Commerce International along with the issue of high pay raises received by senior business executives.[5] The Financial Reporting Council set up the Corporate Governance Committee in May 1991 in response to continuing concerns in the accountancy profession over financial reporting and

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[3] Various UK reports on corporate governance can be accessed and downloaded from the archive webpage (http://www.jbs.cam.ac.uk/cadbury/report/index.html).

[4] For further discussion of corporate governance issues, please refer to a book by Donald Nordberg entitled *Corporate Governance, Principles and Issues* (Sage Publishing, 2010).

[5] For further discussion, see Colin Boyd, 'Ethics and corporate governance: The issues raised by the Cadbury report in the United Kingdom', *Journal of Business Ethics* 15, Vol. 2 (Feb. 1, 1996): 167-182.

accountability standards. Sir Adrian Cadbury was requested to chair the Committee to review and investigate what accountants and auditors could do to prevent such a crisis from happening again and to raise the standards of corporate governance.

The Cadbury Committee recommended the **Code of Best Practice** following its investigation. The suggestions of the Cadbury report included a reduction of the power of executive directors in the boardroom, a separation of the roles of chairman and CEO and a more active role for auditors. Furthermore, it recommended that non-executive directors be independent of management (Nordberg (2010), p. 95). The emphasis of the independent directors in these reports and the rise of independent directors inspired the author of this study to conduct more in-depth research into the effects of independent directors on businesses. In the 1960s, the majority of boards in the US were composed of inside directors, before a change that made independent boards the majority (Bhagat & Black, 2002). In the US, the composition of large public company boards has shifted dramatically, with independent directors comprising approximately 20% of boards in 1950 to 75% in 2008 (Gordon, 2008). The situation in Hong Kong (where one third of boards are currently required to comprise independent directors) is far below levels in the US market. One key consideration that must be made is whether Hong Kong should follow the US and Western markets and change its rules to make the majority of boards comprise independent directors.

Independent director qualifications

As reported in the *Cadbury Archive*, the **Higgs Report** specifies the following director requirements:

- *that at least **half** (50%) of a board (excluding the Chair) comprise non-executive directors;[6]*

- *that those non-executives should meet at least once a year in isolation to discuss company performance (a move away from the clear preference for unitary board structures displayed elsewhere);*

- *that a senior independent director be nominated and made available for shareholders to express any concerns; and*

- *that potential non-executive directors should satisfy themselves that they possess the knowledge, experience, skills and time to carry out their duties with due diligence.[7]*

The different kinds of corporate governance reform may not be a major concern of investors, who instead focus on better firm performance and returns on the companies in which they invest. Returns on investment are highly correlated with business performance. (Different dimensions of performance such as changes in stock returns, market value, Tobin's q and returns on equity are discussed in detail in Chapter 2 and 4.)

Given the various considerations and other good corporate governance practices recommended thus far by different statutory authorities and exchanges, it is highly desirable to investigate whether the implementation of these suggestions affects business

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[6] The effects of the changes in independent director requirements in different regions and especially Hong Kong have been reviewed after analysis of the situation in Hong Kong. Analysis of the optimal INED ratio in companies has revealed that a higher proportion of INEDs may not be the best way to enhance company performance.

[7] Whether a board includes a sufficient number of 'qualified' independent directors with sufficient professional knowledge and the level of these directors' 'independence' have presented additional problems in many studies.

performance (Nada, Andrew, & Alexander, 2001). If no improvements result, then these policies/recommendations should be revised or amended. Nada et al. (2001) find that research related to the importance of generally accepted 'best practices' in corporate governance has generally failed to find convincing connections between these practices and organisational performance. The authors discuss the relationship between two such 'best practices' (CEO/chair duality and insider/outsider composition) and organisational performance and find that it is insignificant to their research outcomes. Hence, whether a monitoring board with more independent directors affects firm performance remains a controversial matter (Baysinger & Butler, 1985; Bhagat & Black, 2002). According to research that considers the information costs of companies, INEDs have a positive effect on firm performance (Duchin et al., 2010). Thus, a research gap exists in these areas for listed companies in Hong Kong.

1.6 Theoretical thread

As the relationship between corporate governance attributes and especially changes in board composition and business performance is the key focus of this study, agency theory is chosen out of three main theories (also including resource-based and stewardship theory, with others covered in more detail in Chapter 2) to form a theoretical thread for the thesis and provide a basis for its findings.

Boards of directors serve two important functions for organisations: monitoring management on behalf of shareholders and resource provision (Hillman & Dalziel, 2003). Agency theory relates to the conflict (i.e., the agency problem) and alignment of interests between the principal (owners/shareholders) and agent (managers) in any operation (Michael C. Jensen & Meckling, 1976; Nicholson & Kiel, 2007; Nordberg, 2010; Tricker, 2012). The theory holds that a better alignment of interests influences business

performance when management is under more monitoring as a result of new changes in board composition.

Overall, evidence of any significant relationships between board composition and corporate performance has been inconsistent, especially among studies of the effects of the addition of independent directors (A. Anderson & Gupta, 2009; Barnhart & Rosenstein, 1998; Berger & Bonaccorsi di Patti, 2006; Brown & Caylor, 2009; Cheung, Thomas Connelly, Limpaphayom, & Zhou, 2007; J. J. Choi, Park, & Yoo, 2007; Doidge, Andrew Karolyi, & Stulz, 2007; Dong-Sung & Kim, 2007; Duchin et al., 2010; B. E. Hermalin & Weisbach, 2003; Jackling & Johl, 2009), family-dominated boards (C. J. P. Chen & Jaggi, 2000; DeMott, 2008; Jaggi, Leung, & Gul, 2009) and board size (Dalton, Daily, Johnson, & Ellstrand, 1999; Jackling & Johl, 2009; Yermack, 1996) on business performance. These inconsistent findings and the latest new developments, including analysis of the effects of board composition changes on firm performance based on information cost proxies (Duchin et al., 2010), form the background and theoretical thread of the author's interest in studying listed companies in Hong Kong.

1.7 Research planning and gaps

Since the listing of the first H-share company on the SEHK in 1993, more companies operating in China have been listed in the developed economy of Hong Kong (i.e., state-owned enterprises [SOEs] or companies owned by private capital). The dynamics and performance of these companies make them highly suitable for further research that considers changes in regulations and corporate governance rules.

Given the inconsistent results of the literature, determining the underlying effects of changing the number or proportion of INEDs for different categories of listed companies including HSI constituent companies, companies incorporated outside of mainland China

and listed in Hong Kong (red chip companies) and companies incorporated in mainland China and listed on the SEHK (usually SOEs or H-share companies) should be the top agenda for government regulators seeking to formulate long-term policies for business development and investment in Hong Kong.

In 2004, the number of INEDs required on boards increased from two to three. The new recommendation made under the Code in Hong Kong, which increased the number of INEDs required on a board to one third of the total number of directors (further elaborated in Chapter 2), was implemented in 2012. However, conclusions about the relationship between INEDs and business performance have been inconsistent, Bhagat and Bolton (2013) finds a significant negative relationship between board independence and operating performance during the pre-2002 period but a positive and significant relationship during the post-2002 period . These observations justify further research that divides Hong Kong listed companies into different sub-groups to determine whether different effects are obtained, rather than general conclusions for all of the companies as a whole. To address the previously outlined issues and begin filling in research gaps, this study seeks to answer the following research questions.

1. What is the relationship between INEDs and company performance?

2. Do INED-related changes have different effects on the performance of companies in different segments in Hong Kong?

The research gaps are discussed in more detail in Chapter 2.

1.8 Research contributions

New mechanisms or practices that have positive, non-correlated or negative effects on business performance would ultimately help the SEHK and regulators to set future

regulations and policies that guide and monitor the long-term development of the financial market. The results of this research should give directions for a better design and reform of the corporate governance structures or policies set by regulators and stock exchanges and help to monitor businesses in the future.

If better mechanisms or practices were formulated, then better protection could be provided to shareholders and investors, including institutional investors such as pension funds and mutual funds, to align their interests with those of firm management and boards of directors.

Whether the implications of the results and effects identified by different researchers around the world are similar across different segments of companies in Hong Kong is worthy of more in-depth research (a point discussed further in Chapter 9).

1.9 Conclusion

Regardless of whether an investor in today's dynamic business environment invests directly in the stock market or indirectly in the pension or ETF/mutual funds market, the ability to distinguish which classes or kinds of companies can deliver performance well in the long run is the fundamental success factor for financial planning and wealth accumulation.

Furthermore, mechanisms that improve business performance would benefit the running, direction and control of businesses and comprise the top priority of investors, regulators and reformers of corporate governance around the world.

The importance of corporate governance reforms remains the current focus of regulators, researchers and practitioners, whose primary concern is whether board composition affects board control and business performance.

Investors definitely concern a company's financial performance and the returns they receive,

and these returns are reflected in the company's stock prices and dividend yields in the long run. Therefore, in addition to the adverse selection problems discussed previously, determining how to increase the value of a firm is the key concern of many investors.

The fundamental question is whether investors should invest in firms with better corporate governance mechanisms to ensure those firms perform better financially in the long run.

To conclude, an important question about corporate governance is whether a better board structure or composition (e.g., adjusting the number of different types of directors such as INEDs or other board attributes) improves a company's corporate governance mechanisms and performance.

An overview of this research and its origination is given in the following flowchart.

Financial Crisis

Cadbury report (1992) to the Sarbanes Oxley Act (2002) and the SEHK's recommended changes in corporate governance measures (2010)

Study of the effects of outside/independent directors on business performance:

+ve, -ve or non-correlation

Effects of INED-related changes on the performance of different types of companies in Hong Kong in view of recent information cost considerations:

Family-controlled business;

Chinese listed, H-share or red chip companies; cross-listing firms (for further research) in other exchanges.

Diagram 1-1 Development of the research ideas

Chapter 2. Literature Review and Theoretical Framework

2.1 Introduction

This chapter presents a review of the literature related to corporate governance in addition to recent regulatory reforms and their effects on business performance. It also aims to identify any research gaps for further study.

This study explores the corporate governance attributes that may affect the financial performance of businesses. Although a comprehensive outline of corporate governance issues is provided, the study focuses on mandatory changes in regulation or the fulfilment of corporate government measures required by regulators and the SEHK.

There are several factors affecting the relationship between corporate governance and financial performance. Some studies have considered earnings quality and whether independent directors can decrease their earnings management, a particular focus of the Sarbanes-Oxley Act in 2002 (Benkel, Mather, & Ramsay, 2006; Jaggi et al., 2009).

The key area of research interest has been the effect of changes in the number of independent directors on financial performance. A research gap was revealed and confirmed by the literature review . Looking at the different segments of companies listed in Hong Kong, it is clear that increasing the number of INEDs on a board (regulation changes in the SEHK or stock exchanges in other regions produces an exogenous shock) would affect firm performance to different extents.

This study provides a framework for establishing the importance of independent directors to corporate governance and establishes a benchmark for comparing results in Hong Kong with those in other regions of the world.

2.2 Literature search plan

To provide a better thesis structure and apply the author's interest in the effects of corporate governance on firm performance, the literature review takes a structured approach. There are a number of related topics to search over the considered period, starting with the financial crises, the attributes of corporate governance, the factors affecting business performance, changes in stock exchange regulation, board of director compositions and the theories behind the rationale of corporate governance policies.

There are many topics in the area of corporate governance, including the processes, customs, policies, laws and institutions that affect how a company is directed and controlled. Other topics include earnings management, voluntary disclosure in financial reporting, financial account auditing and family-controlled businesses. As discussed in the previous section, in terms of the origination of the research question, the author's key concern is the effect of corporate governance on firm performance.

Board composition and independent directors have become the key research concerns due to the changes in regulation towards more rigorous control of the number of independent directors required.

Considering the short-, medium- and long-shot views, the literature review focuses on the issues and development of corporate governance and its effects on financial performance, which it ultimately ascribes to the long-shot view. As there have been several different board composition requirements over the past 20 years in different countries, changes in board composition and new requirements are ascribed to the medium-shot view. These are further narrowed down to the effects of increasing the number of independent directors on firm performance, which is ascribed to the short-shot view.

In addition, this chapter illustrates new developments in the rise of independent directors,

the rationales behind different regions and especially the new changes in regulations and best-practice recommendations in Hong Kong.

Long-shot view: Corporate governance and firm performance

Medium-shot view: changes in board composition and firm performance

Short-shot view: changes in regulation of INED requirements and firm performance
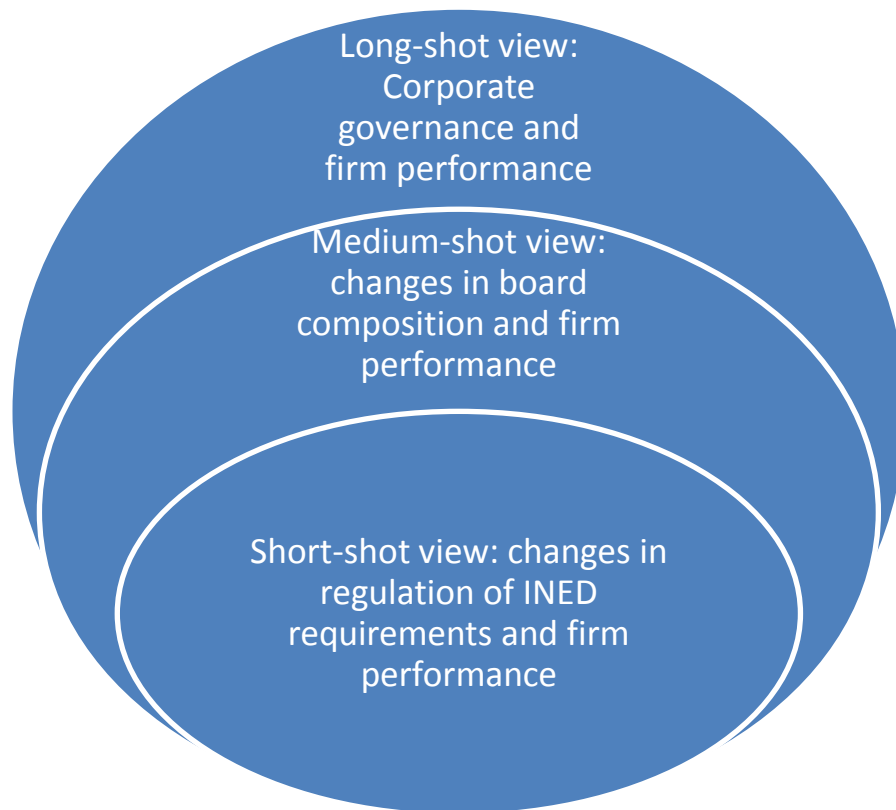
Diagram 2-1 Views of the literature review

2.3 The financial crises revisited

As mentioned in Chapter 1 and in the preceding literature review, this research originated from the disruption caused by financial crises including the Asia financial crisis in 1997, the bankruptcy of energy giant Enron and WorldCom, the second largest long distance phone company in the United States as at 2001. It also originated from the 2008 US subprime mortgage crisis that resulted from the collapse of Lehman Brothers, the fifth largest American investment firm at the time. The bankruptcy of Lehman Brothers was the largest in US history and played a great role in the subsequent global financial crisis. The US government did not have any plan to rescue the investment bank by injecting new capital and hence it was not saved. In contrast, competitor Bear Sterns was sold to and taken over by JP

Morgan Chase earlier in 2008. There are many different ways to think about the origination of the 2008 crisis. Regardless of the cyclical way in which the market works or the dismantling of the 1932 Glass-Steagall Act in 1999, which had separated commercial banking from investing banking and insurance services and ultimately resulted in an increase of the size of the global derivative markets, one underlying reason for the crisis was the corporate governance and risk management of the businesses involved (Sun, Stewart, & Pollard, 2011). The decisions of these companies must be traced back to their boards of directors, who determined the companies' corporate governance structures and were responsible for the management teams that operated the businesses. The actions taken by the boards and/or management at the time and the decisions they made are suspected of being among the major causes of the corporate failures seen during the crisis. Hence, as discussed previously, this study mainly focuses on determining how to improve firm performance by considering particular corporate governance attributes and especially the real influence of board composition.

Several recommendations have been made in several corporate-governance-related committees like those formed under the Cadbury report and compliance with the Sarbanes-Oxley Act. Examples include exerting tighter control over boards by incorporating more outside directors or even using outside directors to form entire audit committees. These recommendations remain controversial.

The Cadbury report (1992) sets out some clear principles for corporate governance, including those related to the distrust of management and shareholders.[8] The principles in the Cadbury report aim to align the interests of shareholders and management by ensuring

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[8] Another type of agency problem that arises between majority and minority shareholders is considered in discussions of agency theory.

that incentives and checks are put in place to steer the behaviour of managers (Chhotray &
Stoker, 2010).

2.4 Framework and recent developments of corporate governance

The nature of corporate governance, its underlying framework, its recent developments and
the advantages of good governance are considered as follows.

1. What is corporate governance?

The meaning of corporate governance can be considered from different perspectives based
on the different definitions and concerns of famous organisations such as the Organization
for Economic Co-operation and Development (OECD),[9] which defines it as follows:
'Corporate governance is about the way in which boards oversee the running of a company
by its managers, and how board members are in turn accountable to shareholders and the
company.' According to the Cadbury report, corporate governance is simply 'the system by
which companies are directed and controlled' (Cadbury_Committee, 1992).

Corporate governance is about the exercise of power over corporate entities. A board of
directors, which is the governing body of a corporate entity, is ultimately responsible for
that entity's decisions and performance (Tricker, 2012). Boards must direct their companies
by exercising their corporate powers. In 1932, following the US stock market crash, Berle
and Means (1932) warned of the growing separation of power between the executive
management of major public companies and diverse and remote shareholders. Determining

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[9] The OECD's roots go back to the rubble of Europe after World War II. Determined to avoid the mistakes of
their predecessors in the wake of World War I, European leaders realised that the best way to ensure lasting
peace was to encourage co-operation and reconstruction rather than punish the defeated. Source: OECD
website (http://www.oecd.org/pages/0,3417,en_36734052_36761863_1_1_1_1_1,00.html).

how to monitor corporate power and conflicts of interest became the main theme of agency theory.

The OECD published the Principles of Corporate Governance (Principles) in 1999 (revised in 2004), which were endorsed by its ministers. Since then, the Principles have come to comprise an international benchmark in the world for policymakers, investors, corporations and other stakeholders worldwide. The Principles state that:

> *They are intended to assist OECD and non-OECD governments in their efforts to evaluate and improve the legal, institutional and regulatory framework for corporate governance in their countries and to provide guidance and suggestions for stock exchanges, investors, corporations, and other parties that have a role in the process of developing good corporate governance. The Principles are the first international code of good corporate governance approved by governments. These Principles focus on publicly traded companies and are intended to assist governments in improving the legal, institutional and regulatory framework that underpins corporate governance.*

2. OECD effective governance framework

As stated in the OCED Principles,[10] corporate governance arrangements and institutions vary from one country to another (e.g., one- or two-tiered board systems), and experiences in both developed and emerging economies have shown that no single available framework is appropriate for all markets. Hence, the Principles are set out in the form of

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10 *Improving Business Behaviour: Why we need Corporate Governance*. Source: OECD website

(http://www.oecd.org/document/37/0,3746,en_2649_34813_31838821_1_1_1_1,00.html).

recommendations only and each country can respond to them as best befits its own traditions and market conditions. The Principles are neither binding nor compulsory.

The areas of the OECD Principles that relate mainly to shareholders' rights, board transparency and disclosure are quoted and summarised as follows.

I. Ensuring the basis for an effective corporate governance framework

The corporate governance framework should promote transparent and efficient markets, be consistent with the rule of law and clearly articulate the division of responsibilities among different supervisory, regulatory and enforcement authorities.

II. The rights of shareholders and key ownership functions

The corporate governance framework should protect and facilitate the exercise of shareholders' rights.

III. The equitable treatment of shareholders

The corporate governance framework should ensure the equitable treatment of all shareholders, including minority and foreign shareholders. All shareholders should have the opportunity to obtain effective redress for violation of their rights.

IV. The role of stakeholders in corporate governance

The corporate governance framework should recognize the rights of stakeholders established by law or through mutual agreements and encourage active co-operation between corporations and stakeholders in creating wealth, jobs, and the sustainability of financially sound enterprises.

V. Disclosure and transparency

The corporate governance framework should ensure that timely and accurate disclosure is made on all material matters regarding the corporation, including the financial situation, performance, ownership, and governance of the company.

VI. The responsibilities of the board

The corporate governance framework should ensure the strategic guidance of the company, the effective monitoring of management by the board, and the board's accountability to the company and the shareholders.

Since 1999, the preceding Principles have been widely adopted as a benchmark for good corporate governance practices. The Financial Stability Forum uses them as one of twelve key standards for ensuring international financial stability, and the World Bank adopts them in its work to improve corporate governance in emerging markets.

3. Framework for understanding corporate governance mechanisms in different countries

Dallas's governance framework (Dallas, 2004) illustrates four interrelated areas for interpreting the corporate governance mechanisms in different countries (F. D. S. Choi & Meek, 2010) and it is shown in diagram 2-2 below.
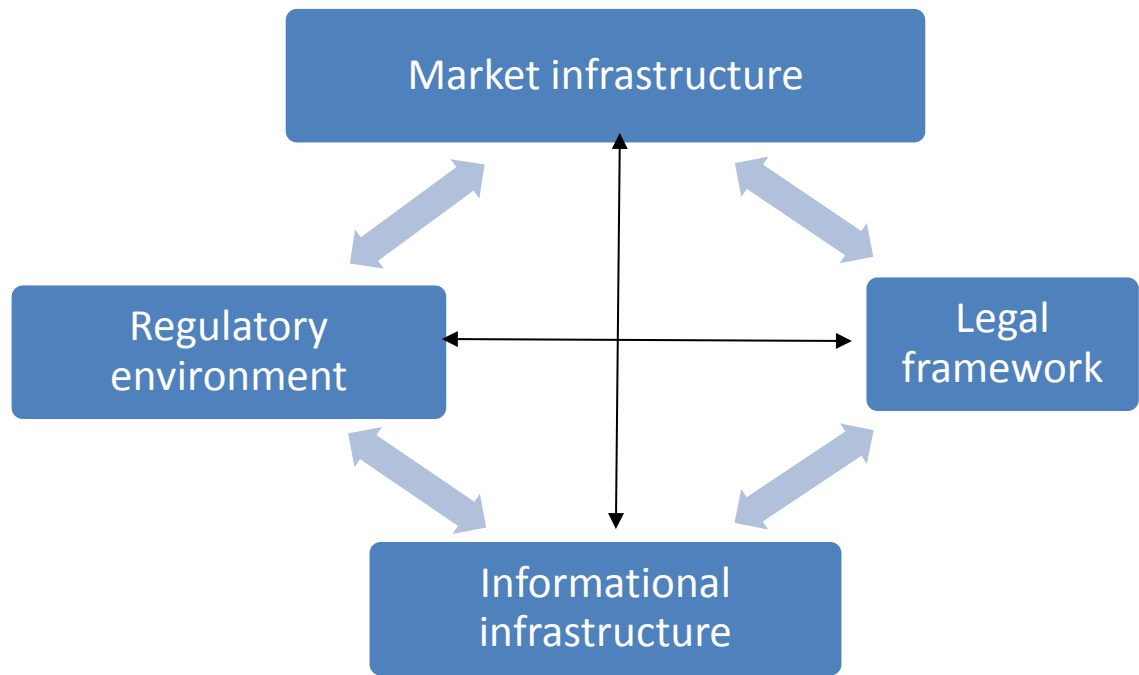
Diagram 2-2 Dallas's governance framework (adapted)

These four components include interactions among market infrastructure, legal environment, regulatory environment and informational infrastructure. Their details are listed as follows (F. D. S. Choi & Meek, 2010).

> *1. Market infrastructure: includes ownership patterns (concentrated vs. dispersed), the extent to which companies are publicly listed, ownerships rights and the market for corporate control, board structure, traditions of board independence and whether the chairman and CEO roles are separated.*

> *2. Legal environment: includes the type of legal system, shareholder rights and company/security laws involved.*

> *3. Regulatory environment: closely related to the legal environment. Regulatory bodies ensure an orderly and efficient market and enforce a public disclosure environment.*

> *4. Informational infrastructure: involves the accounting/auditing standards used to*

foster accurate, complete and timely financial reporting and the disclosure of financial information.

4. Advantage of good corporate governance

A firm with good governance is assumed to provide transparent disclosures (OECD Principle V) of the allocation of decision and control rights between the firm and its investors, hence making it more investor friendly than firms that do not have good governance. Therefore, as 'better governance enables firms to access capital markets on better terms', i.e., a lower cost of capital as supposed, good governance practices should positively affect a firm's valuation and market performance (A. Anderson & Gupta, 2009). Anderson and Gupta (2009) also state that investors are willing to pay a premium for firms with better governance practices in the form of either lower required returns or higher stock market valuations. However, empirical evidence of the governance-performance link remains inconclusive.

The following sections review the theories behind the study of corporate governance and a number of its attributes to determine their influence on business performance. In the literature review process, changes in the regulation of independent directors (which is considered a key area of board composition) are the key concerns of the author and are narrowed down to reveal any research gaps.

2.5 Theoretical structure and the underlying theories

There are different theories behind the study of board composition and the effects of outside or inside directors on business performance. In this study, the three main theories related to board roles are agency, resource dependence and stewardship theory. Other theories including institutional, stakeholder and legitimacy theory are not frequently quoted.

The corporate governance framework comprises three sets of theory including the general,

the board role and the board process theory. Agency theory is a dominant theory under board role theory. General theory can be divided into contingency and evolutionary theory (Huse, 2005). According to Huse (2005), contingency and evolutionary theory differ in that the former focuses on corporate governance design and the latter focuses on the learning process:

> *Contingency theory arguments will be that there is not one best design of corporate governance, but various designs are not equally good. Corporate governance designs will need to consider the context and the actors. The evolutionary perspective is indicated through various learning loops. These may be at individual, group, organizational, and societal levels.*

Huse (2005) also indicates that agency and resource dependence theory have been the dominant board role theory in recent decades. Finally, board process theory helps researchers to understand the behaviour or behavioural perspectives of boards in addition to corporate governance.

The following discussions summarise the theory relevant to board composition and the board views. They include the background and implications of agency theory, resource dependence theory, stewardship theory and other theory (not frequently used) that considers the effects of independent directors on business performance. The first discussion focuses on the traditional theory used extensively when considering corporate governance: agency theory.

1. Agency theory, agency cost and monitoring

Agency theory looks at corporate governance practices and behaviour through the lens of agency dilemma. It perceives the governance relationship as a contract between a shareholder (the principal) and a director or appointed management (the agent). One or more

persons in the contract engage with another person to perform some service that involves the delegation of some decision-making authority to the agent. Directors or management seek to maximise their own personal gains and hence take actions that may be advantageous only to themselves while doing no harm or harmful to the shareholders (Tricker, 2012). The shareholders (the owners) are the principals of the equity contracts (the ordinary shares) and are subject to one particular type of moral hazard problem,[11] i.e., the principal agent problem, where the control of the business is given to the management/managers who own only a small fraction of the firm. This separation of ownership and control involves a moral hazard. As the managers have fewer incentives than the shareholders to maximise the profit or value of the business as a whole, they act in their own interests rather than in the interests of the shareholders (Mishkin, 2009). In a principal-agent problem, the agent in a firm such as the director or manager usually has more information about his or her actions or intentions than the principal (the shareholder) does, as the principal usually cannot completely monitor the agent. The agent may have an incentive to act inappropriately (from the viewpoint of the principal) if the interests of the agent and principal are not aligned.

Hence, acting as the agent of a company, the manager or board member may sacrifice the interests of other shareholders who are not on the board (the principal). This makes it difficult for shareholders to monitor the daily decisions and operations of management and

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[11] A **moral hazard** is a situation in which a party insulated from risk behaves differently from how it would behave if it were fully exposed to the risk. This issue arises when individuals or institutions lower the amount of responsibility associated with their actions, in which case they tend to act less carefully than they otherwise would.

other directors on the board. The agency dilemma can be detected in tangible perquisites (larger office, first-class air tickets, luxury car, etc.) and other self-interested types of motivation for obtaining larger bonuses.

Some mechanisms may be adopted to solve the principal-agent problem, including monitoring (e.g., the auditing carried out by audit firms to partially fulfil the monitoring function), adding more regulations to increase the amount of information required (e.g., annual filing of required statements and reports to the securities commission/stock exchange), financial intermediation such as a venture capital fund (to verify the financial reports of the firm) or debt contracts (in which the lender is responsible for some monitoring of the business). However, the timeliness of continuous monitoring raises questions, and these mechanisms may not help to reflect a true and fair view at the end. For example, in the Enron scandal, even collusions between the company and auditor resulted in the demise of Arthur Anderson in 2002.

The clear implication for corporate governance is that adequate monitoring mechanisms must be established to protect shareholders from management's conflicts of interest, i.e., the so-called 'agency costs' of modern capitalism (Nicholson & Kiel, 2007).

Nicholson and Kiel (2007) conduct a comprehensive review of the three theories and illustrate the effects of agency theory on corporate governance research. They explore two key questions, including how board of director composition affects firm performance and how the leadership structure of a company (i.e., a dual CEO/chairman role) affects corporate performance. As to the mechanism by which a board is expected to influence corporate performance, agency theory suggests that a greater proportion of outside/independent directors (recognising that these two terms are not identical) is able to monitor any self-interested action taken by managers. As a result of the monitoring, there is less

opportunity for managers to pursue their self-interests at the expense of owners (lower agency costs), which allows shareholders to enjoy greater returns (or increased profits). The agency model is widely accepted in the business community, as is made evident by the widespread adoption of normative guidelines emphasising the need for independent directors to monitor board activities.

2. Resource dependence theory

Resource dependence theory considers that the function of a board is to provide the resources to help the operations, strategic plan and direction of the business entity. According to resource dependence theory, a board with stronger links to the external environment can improve its company's access to resources and improve its corporate governance and financial performance (Jackling & Johl, 2009). Nicholson and Kiel (2007) indicate that the procurement of external resources is an important tenet of both the strategic and tactical management of any company.

Nicholson and Kiel (2007) also state that the theory originates from both the sociology and management disciplines and that there is no universally accepted dentition of what constitutes an important resource. Sociologists have tended to concentrate on three distinct types of links, including the links a board provides to a nation's business elite, capital and competitors. Hence, the resource in question is a key determinant of success. Management scholars take a more generic approach and follow the **resource-based view (RBV)** of firms, viewing the board as a potentially important resource for a corporation, especially in terms of its links to the external environment. The ability of a board to link to significant resources is considered one of its key roles. Although a board's ability to access key resources is considered important, the exact nature of the resources can vary. The value of a particular resource is contextual and dependent on the urgency of the need. Specific resources have been studied due to their perceived value to a business, including information links to key

suppliers, customers and other significant stakeholders.

3. Stewardship theory

Stewardship theory approaches corporate governance through a different lens, reflecting or revealing the legal views of a corporation (Tricker, 2012). The theory holds that directors act responsibly with independence and integrity. They do more than maximise their personal interests, and inside directors even improve the performance of their businesses.

In contrast with agency theory, stewardship theory defines situations in which managers and employers are not motivated by individual goals but instead behave as stewards whose motives are aligned with the objectives of the organisation, and the primary role of the board is to serve and advise rather than to discipline and monitor as agency theory prescribes (Arosa, Iturralde, & Maseda, 2010).

According to Nicholson and Kiel (2007), stewardship theory assumes that managers are essentially trustworthy individuals and are thus good stewards of the resources entrusted to them.

As directors spend their working lives in the company they govern, they understand the businesses better than outside directors and so can make superior decisions. Supporters of stewardship theory contend that superior corporate performance is linked to boards that comprise a majority of inside directors, as they naturally work to maximise profit for shareholders. Agency costs are minimised as a matter of course, as senior executives are unlikely to disadvantage shareholders for fear of jeopardising their reputations. Stewardship theorists also hypothesise that outside or independent directors lack the knowledge, time and resources necessary to monitor management effectively.

The processes that link boards of directors to superior business performance are not made explicit in the stewardship literature. Studies have examined the superior amount and quality

of information possessed by inside directors, the apparent relationship between inside directors and long-term investment (R&D spending) and the more balanced approach to CEO compensation taken by inside directors. These findings imply that because inside directors know a company very well, they have superior access to information and are therefore able to make more informed decisions. The three theories are summarised in Diagram 2-3, which is reproduced from Figure 1 in a study by Nicholson and Kiel (2007), p.590.

The focus of each theory is quite different. Agency theory focuses on monitoring through the use of outside directors, stewardship theory focuses on insider directors acting as stewards who serve the firm and resource dependence theory focuses on whether directors can provide resources to the firm.
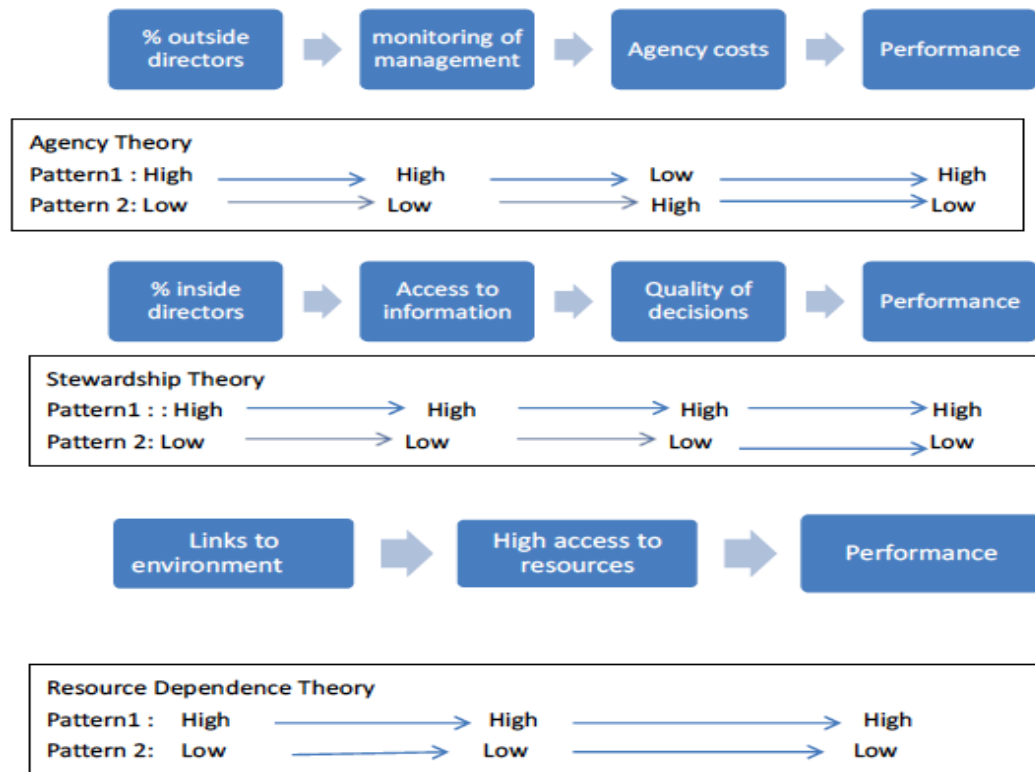
Diagram 2-3 Three theories of corporate governance, reproduced and adapted (Nicholson & Kiel, 2007)

Stakeholder and legitimacy theory are other theories of corporate governance and firm performance. They are discussed briefly as follows.

4. Stakeholder theory

According to Freeman (2010), who illustrates stakeholder theory, the parties classified as stakeholders are those parties that have the capacity to affect the firm and its other stakeholders include governmental bodies, political groups, trade associations, trade unions, communities, financiers, suppliers, employees and customers.

The theory describes and recommends methods that management may adopt to address the interests of those groups. In addition to the traditional shareholder view of the company, stakeholder theory suggests that a company has a binding duty to put its needs first and increase its value (Freeman, 2010). Michael C Jensen (2001) also describes the theory as

follows:

> *Stakeholder theory says that managers should make decisions that take account of the interests of all the stakeholders in a firm. Stakeholders include all individuals or groups who can substantially affect, or be affected by, the welfare of the firm—a category that includes not only the financial claimholders, but also employees, customers, communities, and government officials. In contrast to the grounding of value maximization in economics, stakeholder theory has its roots in sociology, organizational behavior, the politics of special interests, and, managerial self-interest.*

5. Legitimacy theory

The central claim of legitimacy theory is that organisations can only maintain their operations when they have support from the community. This support is earned when the society perceives that the organisation is complying with its expectations based on shared interactions (Deegan, 2014): '*When society is not satisfied that the organization is operating in an acceptable or legitimate manner, the society will revoke the organization's 'contract' to continue the operations.*' For example, consumers may not purchase products from a company that sells poor products.

A wide body of literature uses legitimacy theory from an institutional viewpoint to explain the incentives for corporate voluntary disclosures. Legitimacy is achieved when organisations adopt proper organisational structures and practices that comply with social norms or values (L. Liu, Ramiah, & Naughton, 2001). As stated by Liu et al. (2001), if a business is threatened by a withdrawal of resources by providers, management will seek to re-establish its credentials to repair the legitimacy of the business by disclosing additional information and particularly by providing positive interpretations of controversial actions

to secure endorsement and support from shareholders and the community.

6. Conclusion

Although many theories are relevant to the consideration of board composition, agency theory provides the main theoretical thread for the current study given its important contribution to the understanding of the monitoring role of INEDs. In the next section, the different attributes of corporate governance that affect business performance are considered and discussed.

2.6 Effects of the different attributes of corporate governance

The literature review reveals that the relationship between board composition and performance has various kinds of attributes, many of which are related to other aspects of corporate governance, such as the effects of independent directors on earnings management reductions (Benkel et al., 2006), the effects of audit committee independence on firm value (K. C. Chan & Li, 2008), the relationship between independent directors and financial disclosure (C. J. P. Chen & Jaggi, 2000; Ho & Wong, 2001; Patelli & Prencipe, 2007) and the effects of voluntary disclosure of intellectual capital on firm performance (Guthrie, Petty, & Ricceri, 2006; R. Petty & Cuganesan, 2005; R. Petty, M., Cuganesan, Nigel, & Guy, 2007).

These studies are indirectly related to the changes in business performance and effects of board composition. Several classifications are considered as follows.

1. Voluntary disclosure

First, consider the effects of voluntary disclosure. Using content analysis, R. Petty and Cuganesan (2005) finds that the levels of voluntary disclose of intellectual capital for companies in Hong Kong were low initially but increased over time and that financial success is positively correlated with the voluntary disclosures of a business. Voluntary disclosure increases the transparency of a business to its investors and hence helps to lower

the cost of capital, which ultimately causes the market value of the stock to increase. Disclosure is also positively related to company size (Petty et al., 2006). Moreover, independent directors provide more voluntary disclosures of forward-looking and strategic information to protect their reputations and decrease litigation risks. As such, independent directors improve business performance indirectly by making more voluntary disclosures. The voluntary disclosure index discussed in some studies (Ho & Wong, 2001; Lim, Matolcsy, & Chow, 2007) must be considered carefully, as its creation has been quite subjective. Ho and Wong (2001) conclude that decreases in voluntary disclosure can be attributed to the dominant personality (serving as both chairman and executive officer) and higher proportions of family members on boards in Hong Kong.

2. Audit committee

There has been some support for the claim that the presence of an audit committee influences a higher rate of voluntary disclosure (Ho & Wong, 2001). A. Klein (2002) examines whether audit committee and board characteristics are related to a firm's earnings management. The author finds a negative relationship between audit committee independence and abnormal accruals:

A negative relation was also found between board independence and abnormal accruals. Hence, reductions in board or audit committee independence are accompanied by large increases in abnormal accruals. These results suggest that boards structured to be more independent of the CEO are more effective in monitoring the corporate financial accounting process. Hence increasing independent directors in boards and in audit committee would have some positive effects in reducing earnings management and increasing voluntary disclosure.

3. Earnings management

Earnings management is a kind of agency problem, as boards and managers may have incentives to manipulate earnings as a way of increasing their utility through bonus plans or otherwise while not increasing shareholder wealth. This area has been thoroughly investigated in the corporate governance research.

According to Jaggi, Leung and Gul (2009), corporations with independent boards in the US and UK usually have less earnings management, and the Sarbanes-Oxley Act (2002) especially emphasises the need for corporate board independence to improve earnings quality by decreasing earnings management. Hence, it is important to have high quality earnings reports, as investors rely on these reports when making their investment decisions. Jaggi, Leung and Gul (2009) conclude that the independent boards of Hong Kong firms provide effective monitoring of earnings management.

Based on discretionary accruals as indicators of earnings management, the empirical results of Benkel et al. (2006) suggest that independent directors are associated with reductions in earnings management. These findings are also upheld by A. Klein (2002).

4. Board composition

One key attribute of corporate governance that many researchers have investigated is the relationship between board of director composition and firm performance. The role of the board is to exercise corporate power, determine the operations of the business and evaluate its performance.

According to Jaggi, Leung and Gul (2009), boards serve two separate functions: monitoring and resource provision. The monitoring function, also described as the 'control' role, has consumed the attention of corporate governance researchers from a host of disciplines (i.e., law, finance, sociology and strategic management) for years. The monitoring function refers

directly to the responsibility of directors to monitor managers on behalf of shareholders. The theoretical underpinning of a board's monitoring function is derived from agency theory as discussed in Section 2.5, which describes the potential for conflicts of interest that arise from the separation of ownership and control in organisations.

Jaggi, Leung and Gul (2009) also point out that due to the special business environment in Hong Kong, family-controlled firms are likely to face agency problems different from those of non-family-controlled firms. There are two streams of shareholders: majority and minority shareholders. Family-controlled firms are more likely to suffer from the Type II agency problem (conflict between majority and minority shareholders) than the Type I agency problem (conflict between managers and shareholders). One particular problem with major and controlling shareholders is that they can maximise their private benefits by expropriating minority shareholders and taking some action on the boards (e.g., providing big offices and buying unnecessary luxury items like private airplanes). Thus, some of the managerial actions in family-controlled firms may not be taken in the best interests of outside (minority) shareholders.

5. Regulations of the presence of INEDs on corporate boards

Board compositions can mainly be divided into inside and outside directors. In the US, a director is an outside director and defined as 'independent' if he or she does not 'accept any consulting, advisory, or other compensatory fee from the issuer' and is not 'an affiliated person of the issuer or any subsidiary thereof' other than in his or her capacity as a director (Duchin et al., 2010).

The HKEx guidelines at the time of this study (before 2012) required that all firms appoint at least three INEDs on their corporate boards. However, the requirements had been amended several times previously and will be subject to review and change from time to

time in the future. To strengthen corporate board independence, the HKEx appointed a committee to improve its operations and strengthen the listing requirements so that corporate boards would assume greater responsibility and accountability in ensuring the reliability of reported information. The HKEx Committee (2004) recommended that the number of independent directors on Hong Kong corporate boards be raised from two to three members effective for accounting periods starting on or after 1 January 2005. This introduced an exogenous change in the proportions of INEDs on boards and provided the necessary opportunities and conditions for this research.

The new INED requirements

The revised Code required an increase in the proportion of INEDs on boards to one third of all members. The HKEx adopted the rule that at least one third of an issuer's board should be INEDs and requested that all companies/issuers comply with the rule by 31 December 2012. (The HKEx allowed an issuer a three-month period to appoint a sufficient number of INEDs to comply with the one-third rule after failing to meet the requirement) (HKEX, 2013b).

6. Functions of independent directors

Understanding INEDs requires a full understanding of director classifications. Directors can be classified as inside (officers of the business) and outside (further divided into affiliated and independent) directors. Affiliated directors have potential or current business relationships with a firm but are not full-time employees. These individuals may play an important role in any firm, and in the case of family firms their influence is likely to be greater due to their more permanent and personal relationship with firm management (Arosa et al., 2010).

Hence, INEDs are not only outside directors (not involved in the management of the

business) but also must be independent (i.e., not affiliated). Understanding the nature and composition of boards of directors is necessary given that the numbers of independent directors on boards have increased globally since the 1960s, when inside directors comprised the board majorities. The pattern reflects conventional views of attributing the principal role of monitoring management to the board and considering only independent directors as effective monitors (Bhagat & Black, 2002).

7. Relationship between independent directors and firm performance

As discussed previously, many literature reviews have arrived at different conclusions as to the relationship between independent directors and firm performance. It is quite difficult to find reliable and sufficient evidence that independent or outside directors improve performance, as most studies have found only small, statistically insignificant correlations (Bhagat & Black, 2002; B. E. Hermalin & Weisbach, 2003). The results have been quite inconsistent, ranging from positive and non-related to even negative.

Three categories of research have emerged. The first category has found a positive relationship between INEDs and firm performance in different regions including Taiwan (Hsu-Huei, Paochung, Haider, & Yun-Lin, 2008), China (Mike, 2004), the UK (Mura, 2007) and Korea (J. J. Choi et al., 2007). The methodologies used have varied from normal ordinary least squares (OLS) to generalised method of moments based on panel data. Young, Tsai, and Hsieh (2008) show that the voluntary appointment of independent directors has a positive effect on firm performance in Taiwan.

The second research category has relied on the use of a composite index. Cheung et al. (2007) construct a corporate governance index (CGI) based on a survey of Hong Kong listed companies and find that a firm's market valuation is positively related to its CGI score. Their findings suggest the good corporate governance practices are consistent with value

maximisation in Hong Kong. However, creating the CGI model involves a subjectivity that may bias the results.

The third research category are the results of absent or weak correlations between independent directors and business performance (Bhagat & Black, 2002; Chin-Jung & Ming-Je, 2007; Dulewicz & Herbert, 2004). Some studies have considered the proportions of inside directors on boards (April Klein, 1998). Klein (1998) finds a positive relationship between the percentage of inside directors on finance and investment committees and accounting and stock market performance measures. Firms that significantly increase the representation of inside directors on these two committees experience significantly higher contemporaneous stock returns and returns on investment than firms that decrease the inside director representation.

Hence, given the existing literature, the overall effects of the relationship between independent directors and firm performance have been mixed and inconclusive. Chin-Jung and Ming-Je (2007) argue that these inconsistent results are caused by ambiguity in the meaning and requirements of independence (similar to the one as defined by the HKEx). Hence, the difficulty of classifying independent directors in the research cannot be underestimated despite being defined by the statutory bodies or stock exchange. Young et al. (2008) propose that although they obtain mixed findings in developed markets, evidence of high ownership concentration and weak protection of minority of shareholders from emerging markets is more consistent. For example, the Korea and Taiwan markets show quite consistent results of a positive relationship between board independence and firm performance. The argument that the presence of independent directors leads to stronger boards in emerging markets must be tested.

In summary, the preceding literature provides empirical insights into the effects of various

attributes on business performance, and research gaps must be filled to determine these effects in Hong Kong. Although the minimum number of INEDs required on boards was increased on 30 September 2004, no comprehensive research has considered the effects of that increase.

2.7 Research gaps

The self-regulating HKEx[12] amended the Code and its corporate governance report starting from January 2005, replacing the Code in Appendix 14 with the main board listing rules and requesting that the number of mandatory INEDs be increased from two to three (HKEX, 2013b).

Since the new stock exchange recommendations changed the INED requirement to one third of all board directors (HKEX, 2009), research has focused on the effects of independent directors on business performance due to the controversial conclusions observed in various studies. There are research gaps in which the relationship between INEDs and firm performance must be tested and the effects of the increase in INEDs on firm performance in

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[12] Financial accounting course materials (The Open University of Hong Kong, 2012) illustrate the role of the HKEx. Most of the securities currently traded on the HKEx are equity securities, i.e., company shares. Other types of security may also be listed publicly and traded, e.g., trust units or debt securities such as bonds. It is also important to know that throughout its development period, the HKEx went through certain crises, such as in 1973–1974 when market indexes plummeted significantly and during the notorious market crash of October 1987. Subsequent to the crashes that proved the regulatory system ineffective, the government committed itself to achieving respectable standards and improving the credibility of the HKEx. As a result, the Securities Review Committee (SRC) was commissioned in November 1987 to undertake a comprehensive review of the securities industry. The objectives of the SRC are to make recommendations that ensure integrity is maintained and adequate protection is provided for investors in the local market. This has led to changes in the regulatory environment and the development of the Securities and Futures Commission. However, in its findings, the SRC affirmed the need to preserve the self-regulatory nature of the system. This was established on the premise that for Hong Kong to continue to prosper, the SEHK system should not be regulated by the government.

Hong Kong must be determined. These issues comprise the main focus of this study.

In 2008, Grant Thornton (one of the biggest auditor firms apart from the Big 4 audit firms) commented that a low level of independence on a company's board or committees greatly affected its ability to make objective decisions and critically monitor its performance (Elliott & Elliott, 2010). It reported that very few companies provided detailed and thorough information about their annual INED independence reviews in their annual reports.[13]

Grant Thornton also reported on the direct involvement and controlling influence of family members in Hong Kong businesses. Neither the actual influence nor perceptions of impaired objectivity or conflicts of interests should be ignored in a study of the relationship between board composition and business performance. Hence, the involvement of INEDs in these family-controlled companies is worthy of further investigation.

1. New director regulations from the SEHK

According to Z. Chen, Cheung, Stouraitis, and Wong (2005), the listing regulations of the SEHK have required the mandatory introduction of at least two INEDs on all company boards in Hong Kong since 1995: '*INED should hold less than 1% of the total issued share capital of the listed company, they must have no past or present financial or other interests in the business of the listed company or its subsidiaries, and they must be free from any relationship that could interfere with the exercise of their independent judgment.*' The rule was updated in 2004 and 2010.

Stock exchanges around the world increased the number of outside/independent board directors. The HKEx[14] responded to the new trend and published its 'Consultation Paper on

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[13] The compliance rate (only 60%) of INED serving on audit committee is quite short of full compliance. The composition of remuneration committees is even lower (just 19%).

[14] More details about the new proposal are listed on the Association of Corporate Consul website:

Review of the Code on Corporate Governance Practices and Associated Listing Rules' in December 2010 to suggest some new changes to the Code and certain listing rules relating to corporate governance.

Such proposed changes include promoting some code provisions (CPs) to listing rules provisions, upgrading many recommended best practices (RBPs) to CPs and revising some of the current listing rules provisions.

The HKEx discussed several changes that focused on INED training, remuneration committees, length of INED appointments and INED suitability and made the following propositions.

(1) It proposed to upgrade the RBP on directors' training to a CP. Furthermore, it proposed that directors should attend at least eight hours of training on developments in law, regulations and topics relevant to their duties.

(2) It proposed to set up a remuneration committee with specific terms of reference, with the chairman and majority of members required to be INEDs.

(3) It proposed to upgrade the following RBPs to CPs and to revise the wording as follows.

- *Nine years' service as an INED should be taken into account in determining independence. The importance of independence must be taken into consideration.*

- *INEDs and NEDs should attend board, board committee and general meetings and make contributions to the listed issuer's strategies.*

- *A circular nominating a person for election as an INED should explain his suitability for election and why he is considered independent.*

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http://www.lexology.com/library/detail.aspx?g=35fa7042-165c-4d62-86a3-fec1a5fbe26c

- *Listed issuers should take out adequate and appropriate insurance for directors.*

(4) It proposed that increasing the number of INEDs would promote better corporate governance. Furthermore, it proposed to introduce a rule requiring that INEDs constitute one third of an issuer's board. As 21% of issuers did not meet this proposed requirement in December 2010, the HKEx proposed a transitional period with full compliance mandatory by 31 December 2012.[15]

In summary, as stated in the HKEx proposals, the review and proposed rule amendments included measures to:

- improve transparency by bolstering requirements for disclosure and communication with stakeholders;

- enhance the quality of directors and company secretaries by requiring training;

- require greater involvement of INEDs on issuers' board committees;

- recognise the contribution of company secretaries to corporate governance and define their role and function; and

- emphasise the leadership role of the chairman of the board in corporate governance matters.

2. Three board views

There are three board views that consider the effects of adding independent directors to a firm's corporate governance: the window-dressing, entrenchment and optimisation views (Duchin et al., 2010). These views are summarised as follows.

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[15] HKEx News Release (http://www.hkex.com.hk/eng/newsconsul/hkexnews/2010/101217news.htm).

1. Window-dressing view (INEDs have no effect)

This view argues that setting numerical targets for independent directors through regulation does not improve corporate governance because although managers can select independent directors according to regulatory definitions, they remain unduly sympathetic to management. This creates a debate over how 'independent' the directors are. From this perspective, an increase in board independence simply means putting some allies of management on the board as independent directors, a practice implemented by many family-controlled businesses in Hong Kong. According to the window-dressing view, an increase in measured board independence should have no effect on firm performance.

2. Entrenchment view (INEDs have positive effects)

This view supposes that managers dislike independent boards and seek to insulate themselves from oversights. It assumes that market forces alone are unable to bring about a value-maximising level of board monitoring due to the limited pool of talent and capital (related to resource dependence theory) available to target agency-plagued firms in the market for corporate control. According to the entrenchment view, managers cannot easily evade new board regulations and have to appoint outside directors who are effective monitors, leading to improved firm performance when boards become more independent.

3. Optimisation view (INEDs have negative effects)

This view holds that managers trade off the strengths and weaknesses of inside and outside directors in advising and monitoring to maximise shareholder value. In this case, boards can be composed in ways that make the best use of information. According to the optimisation view, requiring a firm to increase its number of outside or independent directors may produce a suboptimal board and decrease the firm's performance.

Although none of these views is ideal according to Duchin et al. (2010), they are not

necessarily incompatible. For instance, a manager may seek to compose a firm's board in a way that trades off the benefits and costs of information while simultaneously factoring in how the board composition would restrict his or her freedom of action.

2.8 Research questions

As indicated in the discussion of different theories in Section 2.5 and considering the three board views, this study focuses on the effects of the relationship between board composition (independent directors) and firm performance to fill in the aforementioned research gaps. In particular, this study explores the different effects of increasing the board presence of INEDs on firm performance over the last 20 years.

Although agency theory has been criticised for its narrow theoretical scope and board-related behaviour consists of more than simply contractual relationships, it forms the basis of this study of board composition and business performance (and also the basis of many other studies of independent directors) with support from resource dependence theory. The research model adopted in this study tests the monitoring function of independent directors and determines whether they can act as effective controls in operations in addition to their relationship with and effects on business performance.

As a result of the aforementioned research gaps, the interest of this study in revealing the effects of corporate governance attributes on business performance can be captured in two main questions.

1. What are the effects of independent-director-related changes on business performance?

2. Do the effects differ across different segments/indexes of listed companies in Hong Kong (e.g., family-controlled business and SOEs)?

2.9 Performance measures review

To determine the effects of INEDs on firm performance, the term 'performance' must first be clearly defined. Firm performance measures are usually financial ratios that originate from financial statements or stock market data, such as industry-adjusted operating margins or stock market returns (either accounting or market based). These measures usually cannot cancel out/net off the effects of differences in exogenous firm-specific conditions that may affect firm value, but are rather beyond the control of management and therefore cannot reflect agency costs (Berger & Bonaccorsi di Patti, 2006).

Firm performance measurements and performance indicator selection:

Common measures include stock returns, return on assets (ROA), return on equity (ROE), Tobin's q (to measure firm valuation) and other measures such as economic value added (EVA). These measures are discussed as follows.

1. Stock returns

Stock returns available in and extracted from DataStream are commonly used performance variables in many studies. A stock return is equal to a firm's monthly stock return inclusive of dividends for the security in a month (Smith & Amoako-Adu, 1999).

2. Return on equity (ROE) and return on assets (ROA)

Financial analysis involving accounting information can be conducted to determine business performance (K. Palepu, P. Healey, V. Bernard, & E. Peek, 2007). The value of a firm is determined by its profitability and growth. As indicated by K. G. Palepu, P. M. Healey, V. L. Bernard, and E. Peek (2007), overall profitability can be measured initially using a ratio such as ROE, which is equal to net profit divided by shareholder's equity.

In the long run, the value of a firm increases if its ROE is greater than the cost of capital employed. In the literature, ROE is frequently used as an indicator variable to measure

performance (dependent variable). ROE can be further decomposed under Dupont analysis as the product of ROA (ROA–net profits over assets, which can be further decomposed as the net profit margin and asset turnover) and financial leverage (assets over shareholder's equity). In this way, the breakdown of the return ratios can be determined more easily.

3. Tobin's q

Another variable frequently used to measure firm performance is Tobin's q, which is the ratio of the market value of a firm's assets (as measured by the market value of its outstanding stock and debt) to the replacement cost of the firm's assets (Tobin, 1969). Tobin's q is widely used to value a firm in both developing and developed financial markets. The variable shows the financial strength of a firm and serves as a proxy for the firm's performance in a financial market. It is considered the classic valuation measure and is used extensively in the corporate governance literature.

According to many studies, as accounting rate of return measured as performance can be influenced by industry effects and temporary disequilibrium effects such as tax law, these measures may not be good representations of firm performance (Wernerfelt & Montgomery, 1988).

Tobin's q is beneficial in that it can be used without estimating either the rate of return or marginal costs. However, one requires accurate measures of both the market value and replacement cost of a firm's assets:

> *In the absence of market power, a divergence of q from one represents the value of the assets not included in the denominator of q, such as the value of the internal organization or the value of expected agency costs. A q above one indicates that the market views the firm's internal organization as exceptionally good or the expected agency costs as particularly small.* (B. E. W. M. S. Hermalin, 1991)

Tobin's q can be used to estimate firm performance in combination with other performance measures if appropriate data are obtained from databases.

Tobin's q can be approximated for easier calculation based on the formula in the Compustat database (Duchin et al., 2010) and approximate q (Chung & Pruitt, 1994).

According to Bai, Liu, Lu, Song, and Zhang (2004), Tobin's q can be defined using Chung and Pruitt (1994) approximation (approximate q) method.

The following simplified formula is reported in Chapter 3:

$$Tq = \frac{MVCS + BVPS + BVLTD + BVINV + BVCL - BVCA}{BVTA},$$

where MVCS is the market value of the firm's common stock shares, BVPS is the book value of the firm's preferred stocks, BVLTD is the book value of the firm's long-term debt, BVINV is the book value of the firm's inventories, BVCL is the book value of the firm's current liabilities, BVCA is the book value of the firm's current assets and BVTA is the book value of the firm's total assets. If no preferred stock exists, then the preceding formula is reduced to

$$Tq = \frac{MVCS + BVLTD + BVINV + BVCL - BVCA}{BVTA}.$$

4. Market value added (MVA) and Economic value added (EVA)

Market value added (MVA) and EVA are two popular measures of firm performance (Gapenski, 1996). MVA is the difference between a firm's total market value (of debt and equity) at the end of the year, less the cumulative book value of the capital invested in the firm at the end of the same year. MVA reflects the stock market's estimate of the current value of all of the firm's capital investment projects.

EVA represents the residual income that remains after all of the costs have been recognised, including the opportunity cost of the equity capital employed. It measures the dollar value of the firm's return in excess of the opportunity cost. EVA depends on both operating efficiency and prudent balance sheet management. Without this efficiency, operating profits are low, and without careful balance sheet management, too many assets and too much capital exist, resulting in higher-than-necessary capital costs (Gapenski, 1996).

5. Profit efficiency

As indicated by Berger and Bonaccorsi di Patti (2006), profit efficiency evaluates how close a firm is to earning the profit that a best-practice firm would earn facing the same exogenous conditions. This has the benefit of controlling for firm-specific factors that are outside the control of management and not part of the agency costs. However, the difficulty involved in evaluating the profit function of an individual business makes it unjustifiable to do so, and it is quite difficult to measure such variables in reality.

6. Subjective measure

It has been argued that subjective measures can be useful in assessing a firm's financial performance instead of accounting or market measures as indicated previously (Rowe & J. L. Morrow, 1999). However, it is a view of stakeholders to provide subjective ratings to firms that may not be very useful indicators.

In summary, care must be exercised when choosing variable(s) to represent performance, as there is no unique consensus in this area. Chapter 4 discusses the chosen variables included in the research model used in this study in more detail.

2.10 Conclusion

The research framework is summarised in the following diagram, which includes the period, main question and types of companies involved.

Period:

Change in mandatory number of INEDs from two to three over the period from 2000 to 2011.

New requirement of one third of board directors in 2012.

Effects on performance of different types of companies in Hong Kong over the period.

Types of companies for testing if any enhancement of monitoring/increase in performance:

HSI constituent companies

H-share companies

Red chip companies

Family- vs non-family controlled companies

GEM companies

Cross-listing companies (e.g., US ADR) (for further research)

Diagram 2-4 Summary of the research framework

Given the mixed results of the effects of independent directors on firm performance (no correlation, positive and negative) and the new empirical research involving the effects of the information cost performed by Duchin et al. (2010), the effects of independent directors on the performance of different types of listed companies in Hong Kong must be tested. By

also considering the special Type II agency problem affecting family-controlled companies, this study focuses on testing the effects of independent directors on the performance of different classifications of companies listed on the SEHK, such as SOEs and family- and non-family-controlled companies.

Chapter 3. Empirical Design and Testable Hypotheses

3.1 Introduction

The previous chapter discusses the details of the literature review and the research framework upon which this study is based. This chapter presents the theoretical framework of the panel data model and the empirical design of the panel data regression, considers the different methods adopted and develops several testable hypotheses. The hypotheses presented in this chapter and the variables discussed in the next chapter form the basis of the empirical test conducted in Chapters 5-7.

3.2 Empirical model: Nature of the panel data

Datasets that combine time series and cross-sections are longitudinal or panel data sets that contain observations of thousands of individuals or entities, with each observed at several points in time. The panel data model allows for the control of unobserved variables such as cultural factors or different business practices or factor changes over time, but not across entities such as government regulations and policies. Green (2003) states that the fundamental advantage of a panel dataset is the great flexibility it allows in modelling differences in behaviour across individuals (i.e., in this study, the different companies in Hong Kong). These techniques are focused on cross-sectional variations (Greene, 2003). Moreover, as panel datasets involve both cross-sectional and time series dimensions, the econometric model is more complex to fit than just simple cross-sectional data. At the same time, due to the large number of observations involved, the dynamics of the dataset revealed can be difficult to detect using only cross-sectional data (Dougherty, 2011).

As the data included in this study (a large number of cross-sectional units and a few periods) are used to analyse the effects of INEDs on business performance in Hong Kong, changes occur in the dependent and independent variables over time. These kinds of

longitudinal data can be referred to as panel data, repeated measures or cross-sectional time-series data (Rabe-Hesketh & Skrondal, 2008). These panel data were collected prospectively by following the same group of subjects or units over time and followed up on the same occasions, leading to a collected set of balanced (i.e., no missing data in general) panel data (Rabe-Hesketh & Skrondal, 2012).

These longitudinal data can even be viewed as two-level or clustered data with occasions nested in the subjects so that the subjects become the clusters. These longitudinal data are special in that they are level 1 units or occasions and are ordered in time and not exchangeable, unlike other data such as students nested in schools (Rabe-Hesketh & Skrondal, 2008).

The different panel data analysis methods are discussed as follows. Different methods are used to handle longitudinal or panel data, including the fixed, random and latest mixed effects models if it is assumed that the data are nested under different groups. Given that the data are in a panel data format, it must be decided whether the fixed or random effects model should be chosen for analysis (Wooldridge, 2010). In this study, the panel data are first subjected to a traditional fixed effects regression according to the procedures discussed in Section 3.4.

Using OLS regression to handle panel data can present problems, as the data are clustered and unobserved between-subject heterogeneity can occur, leading to within-subject correlations (Rabe-Hesketh & Skrondal, 2008).

Assuming n observations and T periods, the basic linear unobserved effects model or framework for the panel data can be written as follows (Greene, 2003; Wooldridge, 2010):

$$\mathbf{y_{it}} = \boldsymbol{\beta}\, \mathbf{x_{it}} + \mathbf{z_i}\boldsymbol{\alpha} + \mathbf{u_{it}} \qquad \text{for} \quad t = 1,2,\ldots\ldots, T \text{ and } \quad i = 1,2\ldots\ldots n \qquad \textbf{[Equ. 3.1]}$$

where $\mathbf{y_{it}}$ is the dependent variable observed for individual i at time t. Assume there are K

regressors/independent variables in x_{it}. $z_i\alpha$ is the unobserved individual effect, where z_i contains a constant term and a set of individual or group-specific variables, which may be observed (e.g., race, sex, location) or unobserved (e.g., family or company characteristics). u_{it} is the error term.

3.3 Different panel regression models

In the econometrics field, as stated by Greene (2003), there are four model structures including pooled model regression, the fixed effects model, the random effects model and random parameters (a less popular model not covered in this study).

1. Pooled model

In a pooled model, all of the data related to different entities/individuals are pooled together with no provision for individual differences that may lead to different coefficients (Hill, Griffiths, & Lim, 2010). In this case, OLS regression can be used to estimate the effects of the independent variable on the dependent variables.

2. Fixed effects model

In the fixed effects model, the assumption is ci, i.e., $z_i\alpha$ is unobserved (Equ. 3.1) but correlated with x_{it}. Each entity has its own individual characteristics that may influence the independent variables. The general model used to analyse the panel data can be re-written as follows (Equ. 3.1 is repeated as 3.1a):

$$y_{it} = \beta x_{it} + c_i + u_{it} \quad \text{where } c_i = z_i\alpha \qquad \text{[Equ. 3.1a]}$$

where c_i (i=1….n) is the unknown intercept for each entity (n entity-specific intercepts);

y_{it} is the dependent variable, where i = entity and t = time;

x_{it} represents one independent variable;

$\boldsymbol{\beta}$ is the coefficient for that independent variable; and $\mathbf{u_{it}}$ is the error term.

$\mathbf{c_i}$ is the individual effect or heterogeneity and can be treated as a random effect or a fixed effect (Wooldridge, 2010). If $\mathbf{z_i}$ contains only a constant term, then OLS regression can be used to provide consistent and efficient estimates of the common c and slope vector $\boldsymbol{\beta}$.

The traditional question is whether $\mathbf{c_i}$ should be considered as <u>a random variable (random effect) or a parameter (fixed effect) to be estimated</u>. If $\mathbf{z_i}$ is unobserved but correlated with $\mathbf{x_{it}}$, then the least squares estimator of $\boldsymbol{\beta}$ is biased and inconsistent. However, the fixed effects model assumes that $\mathbf{c_i}$ is a group-specific constant term, **allowing for correlation** between the unobserved effect $\mathbf{c_i}$ and observed explanatory variable $\mathbf{x_{it}}$ (Greene, 2003; Wooldridge, 2010). Given the large number of samples drawn from the cross-section, it can be assumed that $\mathbf{c_i}$ is drawn randomly from the population along with $\mathbf{y_{it}}$ and $\mathbf{x_{it}}$ (Wooldridge, 2010). The other assumption of the fixed effects model is that the time-invariant characteristics are unique to the individual and should not be correlated with other individual characteristics. The fixed effects model can remove the effects of these time-invariant characteristics, allowing access to the net effect of the predictors on the outcome variable. As each entity is different, the error term of the entity and the constant (which captures individual characteristics) should not be correlated with each other.

However, if the error terms are correlated, then the fixed effects model is not appropriate, as the inferences may not be correct. In this case, the relationship should be modelled in another way (probably using random effects). The <u>Durbun-Wu-Hausman test (Hausman test)</u> can be conducted to test whether the fixed or random effects model should be used (Reyna, 2007). Diagram 3-1 details the procedures in a flowchart.

3. Random effects panel regression

The rationale behind the random effects model is that unlike the fixed effects model, the variation across entities is assumed to be random and uncorrelated with the predictor or independent variables included in the model (Reyna, 2007). Hence Greene (2003) states that fixed and random effects can be distinguished in terms of whether the unobserved individual effects are correlated with the regressors in the model and not whether the effects are stochastic.

In addition, if there is reason to believe that the differences across entities have some influence on the dependent variable, then the random effects model should be used. An advantage of the random effects model is that time-invariant variables such as gender can be included. In the fixed effects model, these variables are absorbed by the intercept.

Furthermore, the use of an alternative approach of random effects regression is subject to two conditions (Dougherty, 2011).

i. It is possible to treat all observed effect/variables as drawn randomly from a given distribution. In this case, α_I can be treated as a random variable. For example, a survey respondent may be removed from a whole country population.

ii. These unobserved variables are distributed independently of the independent variables/regressors. Otherwise, α_I is correlated with u_{it}, making the random effects estimation biased and inconsistent.

After fulfilling these two conditions, changing Equ. 1 into the random effects model produces a new equation:

$$Y_{it} = \beta X_{it} + \alpha + u_{it} + \varepsilon_{it} \hspace{3cm} \textbf{[Equ. 2]}$$

According to Dougherty (2011), random effects estimation is more attractive in principle,

as the observed characteristics that remain constant for each individual are retained in the panel regression model. This is not the case for the fixed effects model, in which some characteristics must be dropped. However, if any one of the two conditions previously stated cannot be met, then a fixed effects model should be used accordingly.

4. Mixed effects panel regression

According to Baayen, Davidson, and Bates (2008), a mixed effects model can be used to handle both fixed and random effects panel data regressions. A simultaneous consideration of all of the factors that may help to clarify the data structure may offer substantially enhanced insights into how subjects are performing over the course of an experiment. '*Mixed-effects modeling is a highly active research field. Well-established algorithms and techniques for parameter estimation are now widely available. One question that is still hotly debated is the appropriate number of degrees of freedom for the fixed-effects factors.*'(Baayen et al., 2008) More details related to the nature of a mixed effects panel regression are presented as follows according to the Stata v.13 manual:

> *Mixed-effects models are characterized as containing both fixed effects and random effects. The fixed effects are analogous to standard regression coefficients and are estimated directly. The random effects are not directly estimated (although they may be obtained postestimation) but are summarized according to their estimated variances and covariances. Random effects may take the form of either random intercepts or random coefficients, and the grouping structure of the data may consist of multiple levels of nested groups. As such, mixed-effects models are also known in the literature as multilevel models and hierarchical models. Mixed-effects commands fit mixed-effects models for a variety of distributions of the response conditional on normally distributed random effects.* (StataCorp, 2013)

Different types of companies can be chosen at different levels when using the mixed effects panel data regression, which can be used for both fixed and random effects. As the fixed effects model is justified for use in this study (Section 3.4), the mixed effects model is not considered here.

3.4 Procedures for choosing panel data regression methods

Finally, determining whether to use the fixed or random effects models does not really matter when the period is large and both methods give almost the same estimates of the parameters. However, the choice is unclear when the number of periods (T) is small but the number of individuals (N) is large (Hsiao, 2003). As this study is similar in nature, with a small T value but a large N value, the correct panel regression method should be chosen carefully.

As mentioned previously, with the cross-sectional time series data in mind, a panel data model is fitted. There are two major traditional panel regression methods, including the fixed and random effects models. Hence, the decision to use either method or just OLS regression is subject to certain selection procedures and tests. A decision flowchart is useful in making such a selection. Diagram 3-1, reproduced from a study by Dougherty (2011, p. 527), presents a flowchart for deciding which panel model should be used.

The procedures (Diagram 3-1) are summarised in the following steps (Dougherty, 2011).

1. Determine whether the observations can be described as random samples taken from a given population. For example, in this study, the companies taken from the database subject to the index requirements or other criteria, e.g., whether a firm is family controlled, are not considered as comprising a random sample in general. If the answer is no, then a fixed effects model can be used.

2. If the answer to step 1 is yes, then both random and fixed effects panel regressions must be performed. The Hausman test must be conducted to determine whether the unobserved effect c_i is distributed independently of the independent variables. The null hypothesis indicates significant differences in the coefficients. If the answer is yes, then the fixed effects model can be used.

3. If the answer to the Hausman test is no, then a random effects model should be chosen (provisionally) instead. However, the presence of unobserved effects must be determined. If there are no unobserved effects (just purely random components of the error term but no individual specific terms), then pooled OLS[16] can be used to improve efficiency in the regression. The Breusch-Pagan Lagrange multiplier (LM) test can be conducted to determine the presence of random effects. If such effects are present, then the random effects model can be used. If no such effects are present, then pooled OLS can be used accordingly.

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[16] A pooled OLS model is one in which the data related to different individuals are simply pooled together with no provision for individual differences leading to different coefficients (**Hill et al., 2010**).

The flowchart for deciding which method to use for analysis is presented as follows.
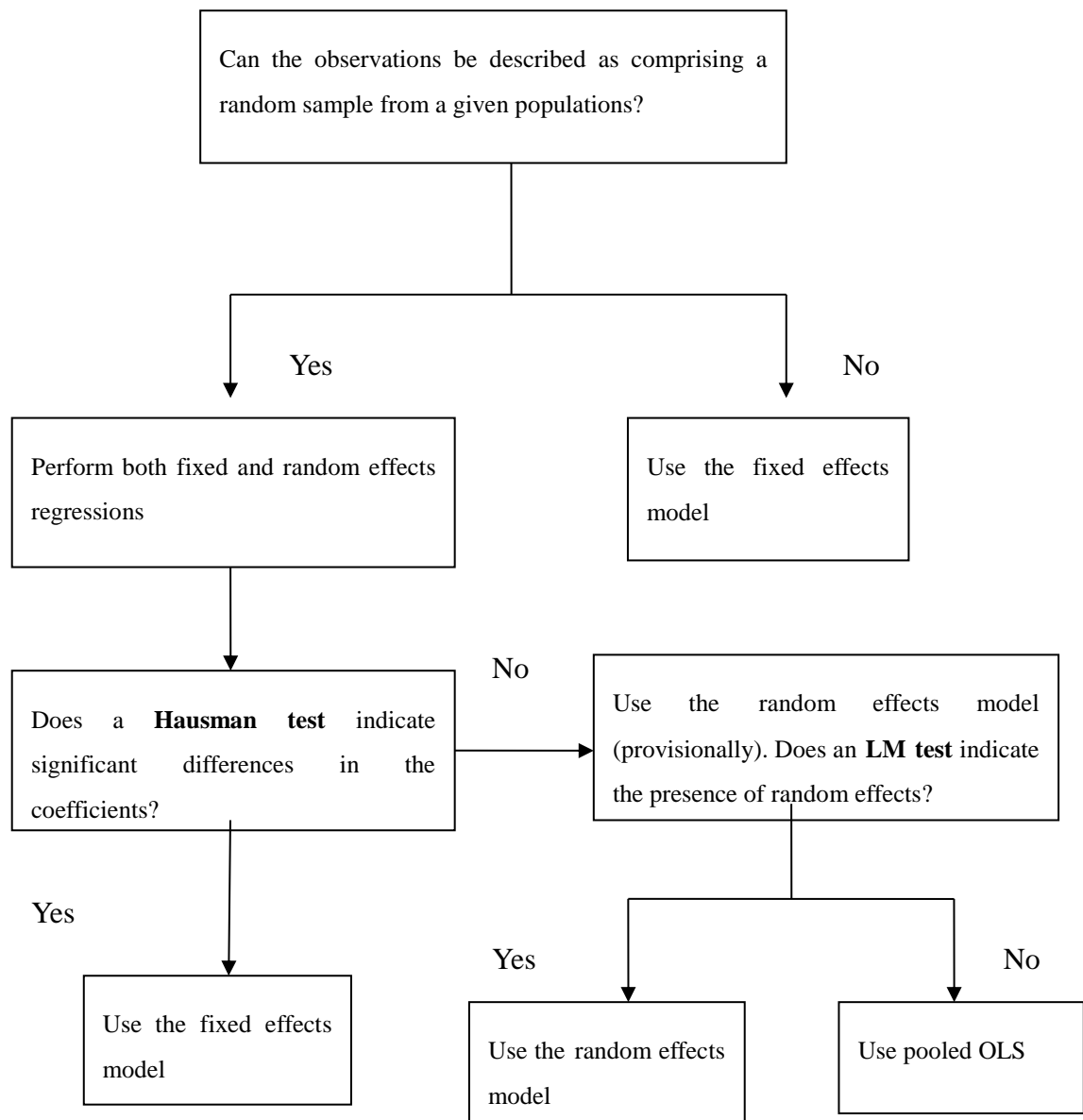
Diagram 3-1 Choice of regression model for panel data, reproduced and modified (Dougherty, 2011)

Considering diagram 3.2, if it cannot be decided whether the data sample represents a random sample from the population, then an alternative procedure can be considered (Park, 2011). A fixed panel regression (with an F-test and its statistics) and a random effects panel regression (with an LM test and its statistics) can both be fitted. After the random effects panel regression is fitted, the xttest0 command (Stata program, discussed in section 3.5) can be used to run the LM test. The selection criteria are provided as follows. If neither test's null hypotheses are rejected, then the data are poolable and an OLS regression should be fitted instead (selection 1). If the F-test is rejected but not the LM test, then the fixed effects model should be used (selection 2). If the LM test is rejected but not the F-test, then the random effects model should be used (selection 3). If both tests are rejected, then a Hausman test should be conducted. If the Hausman test is rejected, then the fixed effects model should be used; otherwise, the random effects model should be used (selection 4). Diagram 3.2 outlines the procedures.

Fixed effect (F-test)	Random effect (B-P LM test)	Selection
H_0 is not rejected (No fixed effect)	H_0 is not rejected (No random effect)	1. Pooled OLS
H_0 is rejected (Fixed effect)	H_0 is not rejected (No random effect)	2. Fixed effects model
H_0 is not rejected (No fixed effect)	H_0 is rejected (Random effect)	3. Random effects model
H_0 is rejected (Fixed effect)	H_0 is rejected (Random effect)	4. Fixed effects model if the null hypothesis of a Hausman test is rejected; random effects model otherwise.

Diagram 3-2 Alternative selection procedures of panel data regression, adapted (Park, 2011)

Conclusion of the method selection

All 877 of the available companies in the sample from SEHK listed companies are included (i.e., not a random sample). Hence, according to Diagram 3-1, the fixed effects model should be chosen and used for analysis.

Following the alternative procedures in Diagram 3-2, the random effect regression is run and the result of the LM test is not significant (p-value=0.2347). However, the F-test results based on the fixed effects model are significant (F-statistic=105.39 and p-value= 0.0000). Hence, after considering both approaches it can be concluded that the fixed effects model should be used instead of OLS regression. The fixed effects model is equivalent to imposing firm-specific dummy variables in the regression along with other independent variables (Cordeiro, He, Conyon, & Shaw, 2013).

3.5 Software chosen

The data are panel data, which require more computational and statistical functionality in the model and regression. Hence, a general spreadsheet program or a simple statistical program that includes only an OLS package cannot be used. After comparing similar programs that can run panel data regressions, Stata is chosen rather than other statistical packages such as the R or GRETL, which are freeware programs that require more programming to deliver the same statistical or regression functions. Other programs including SPSS and SAS are quite common (especially SPSS), but the cost, functions and ease of use of Stata (using the Gradplan License, i.e., the postgraduate version, which has all of the features of the retail version) make it ideal for its use as the main statistics program to run different panel data regressions for analysis in this study. The input commands required by Stata to perform the input and fixed effects analysis are attached in

Appendix A3 as a reference.

3.6 Research design

Following the rationale used to test the effects of increasing board independence on firm performance (Duchin et al., 2010) as mandated by the HKEx, which increased the number of INEDs required on boards from two to three in 2004, the endogeneity problem can be ignored.

The effects of increasing the numbers or ratios of INEDs on business performance are the core interests of this study. Four different and commonly used performance variables are chosen as dependent variables, including ROA, ROE, Tobin's q and stock returns (using the return index with an assumption of dividend reinvestment). All of the variables are defined in Chapter 4.

One of the goals of this study is to classify firms into different treatment and control groups depending on whether they complied with the new board regulations when introduced in Hong Kong (different groups of INED proportions are formed and subjected to the test). The results obtained can be used as a guideline to determine the optimal ratio of INEDs in the Hong Kong business environment. Noncompliance with the new board regulations can be used as an instrument to identify an exogenous shift in the percentage of outside directors.

The benchmark year is 2004, the year in which the HKEx mandated an increase in the number of INEDs required on boards from two to three, and the end year is 2005, by which all of the relevant regulations had been adopted and phased in.

3.7 Hypothesis building and the model

The structure of the hypothesis testing requires a definition of the research hypothesis and

an explanation of what the study is measuring (setting out the variables studied). The null and alternative hypotheses are then set out along with the level of significance (5% is quite common, or even 1% if more significant) and a one- or two-tailed prediction is made. The appropriate statistical test is then determined based on the nature of the data. Finally, the statistical test of the data is run and the output from the test is interpreted to determine whether to accept or reject the null hypothesis (De Veaux, Velleman, & Bock, 2007; Groebner, 2013).

Based on the literature discussed in Chapter 2, the overall effects of the relationship between independent directors and firm performance are inconclusive (Bhagat & Black, 2002; Chin-Jung & Ming-Je, 2007; Dulewicz & Herbert, 2004). The effects of INEDs on the performance of companies in Hong Kong may be positive, negative or non-correlated according to these different research reports. As there are many different types of firms in the total population, the hypotheses must test whether INEDs influence firm performance across different segments. As SOEs, family-controlled businesses and other companies in Hong Kong (including HSI constituent and GEM companies) can differ drastically, five hypotheses are posed for each of these classifications or groups of companies.

1. The first Hypothesis (H1) applies to all Hong Kong companies in general.

The Null Hypothesis (H_0): Increasing the number of INEDs has no effect on firm performance.

The Alternative Hypothesis (H_A): Increasing the number of INEDs affects firm performance.

These hypotheses follow the understanding that the overall effects of the relationship between INEDs and firm performance are inconclusive based on the literature review in Chapter 2.

2. The second Hypothesis (H2) applies to all HSI constituent companies in Hong Kong in general.

The Null Hypothesis (H_0): Increasing the number of INEDs has positive effects on the performance of HSI constituent companies.

The Alternative Hypothesis (H_A): Increasing the number of INEDs has no effect on the performance of HSI constituent companies.

As HSI constituent companies are leading companies, the better their board compositions, the more likely increasing the number of INEDs is to positively benefit their performance.

3. The third Hypothesis (H3) applies to all GEM companies in Hong Kong in general.

The Null Hypothesis (H_0): Increasing the number of INEDs has positive effects on the performance of GEM companies.

The Alternative Hypothesis (H_A): Increasing the number of INEDs has no effect on the performance of GEM companies.

As GEM companies are growing companies, the better their board compositions, the more likely increasing the number of INEDs is to benefit their performance.

4. The fourth Hypothesis (H4) applies to all Chinese companies in Hong Kong in general.

The Null Hypothesis (H_0): Increasing the number of INEDs has positive effects on the performance of Chinese companies.

The Alternative Hypothesis (H_A): Increasing the number of INEDs has no effect on the performance of Chinese companies.

As Chinese companies (H-share or red chip companies) are directly or indirectly controlled by the Chinese government, the better their board compositions, the more likely increasing the number of INEDs is to benefit their performance and reveal how they are run in Hong Kong.

5. The fifth Hypothesis (H5) applies to all family-controlled companies in Hong Kong in general.

The Null Hypothesis (H_0): Increasing the number of INEDs has positive effects on the performance of family-controlled companies.

The Alternative Hypothesis (H_A): Increasing the number of INEDs has no effect on the performance of family-controlled companies.

As family-controlled companies are directly or indirectly controlled by family members, the better their board compositions, the more likely increasing the number of INEDs is to benefit their performance and help the family members run their companies in Hong Kong.

The preceding hypotheses are tested via the following panel data regression model using fixed effects.

The effects of the main independent variable (INED) on the dependent variable (performance) are considered in the following panel regression model.

$$\textbf{Performance}_{it} = \alpha + u_{it} + \beta_1 \textbf{INEDR}_{it} + \beta_2 \textbf{FA}_{it} + \beta_3 \textbf{BS}_t + \beta_4 \textbf{DE}_t + \beta_5 \textbf{logTA}_{it} + \beta_6 \textbf{logMkt}_{it} + \beta_7 \textbf{logDebt}_{it} + \beta_8 \textbf{logEquity}_{it} + \varepsilon_{it} \qquad \textbf{[Equ. 3.3]}$$

where $i = 1, 2, …, N$ and $t = 1, 2, …, T$. N is the total number of companies and T is the total number of periods.

The individual-specific intercept u_{it} controls for any combination of cross-section invariant variables that have been omitted (unobserved effects), knowingly or otherwise, from the regression model. Performance$_{it}$ is one of the four commonly used performance variables considered in Section 4.4.1, including stock return, Tobin's q, ROA and ROE. The INED ratio (INEDR) is the main independent variable considered. The other variables (board size, debt to equity ratio, total asset book value, market value of shares, total debt values and total equity values) are control variables, are discussed in Section 4.4.4.

3.8 Summary

This chapter discusses the nature of panel data and the different panel data regression methods in detail. It also presents and explains the different selection criteria for the panel data regressions conducted in this study. The fixed effects method is chosen to test hypotheses applied to the different segments of companies in Hong Kong under consideration.

Following comparisons with other software available on the market and considerations of function, cost and ease of use, Stata software is chosen to conduct statistical analysis.

Chapter 4. Data Collection and Variable Measurements

4.1 Introduction

This chapter presents an overview of the procedures used to collect raw panel data from different sources such as DataStream and other databases and the conversion of these panel data into proper formats using SQL in Access. The setup of the variables for the empirical research conducted in the next three chapters is also discussed.

4.2 Sample selection and data collection procedures

The sample consists of Hong Kong firms incorporated and listed on the SEHK. A panel dataset is used, covering 2000-2011 inclusively. Therefore, the data cover a period before and after the mandate made at the end of the year 2004 requiring the presence of three INEDs on boards in Hong Kong. The minimum number of years of data for each firm is seven years with a maximum of twelve years. The mean is 11.4 years, generating a balanced panel dataset. After adjustments, the dataset provides 10,524 firm-year observations from 827 companies. The data were taken from a number of different sources. Company annual reports in the HKEx provided details for non-executive director representation. The reports also provided information related to board and institutional ownership. All of the other performance data and control variables were taken from DataStream except for the information cost variables (number of analysts and estimates), which were taken from the IBEX databases of Thomson. Table 4-1 shows the numbers of companies (main board and GEM) listed on the SEHK from 2000 to 2011.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Main	737	757	813	852	892	934	976	1,049	1,088	1,146	1,245	1,327
GEM	54	111	166	185	204	201	198	193	174	174	169	170

Table 4-1 Number of main board and GEM companies from 2000 to 2011

The numbers of main board and GEM companies increased by 80% and 214.8%, respectively, in the same period. The companies under consideration are classified according to their natures and different groupings, discussed further in Section 4.6.

4.3 Research timeline

The author commenced the research process in 2010 (after completing coursework in 2009) and followed a part-time study mode. During the period, the author worked full time as a teacher in Hong Kong and had to meet many challenging family situations, including the births of two children (2012 and 2014) and the long-term illness of a family member. The majority of the literature review was conducted between 2010 and 2014. Data collection and analysis began in 2012, and the writing, editing and updating of the thesis were completed in 2014/2015 for the purpose of presenting a final submission for the DBA programme.

4.4 Level of data collection and input preparation

All of the data are secondary data collected from different databases during the data collection periods.

The steps taken to download data via DataStream are summarised as follows.

1. The data were collected via DataStream using the selection codes **FHKQ** (given by the DataStream administrator) to extract all of the data related to companies in Hong Kong. Due to the large volume of data, they were divided into two subgroups (FHK1 and FHK2).

2. The data were then downloaded from the DataStream terminal using an Excel template. The steps taken to retrieve the data for different variables are summarised as follows. (The average EPS of Hong Kong listed companies is used as example to illustrate the target variable of consideration in Diagram 4-1.)

Step 1: Open Excel > DataStream > Static Request.

Step 2: Key in the information in the Series & Data type fields as shown in Diagram 4-1 (the following is an EPS variable) as follows:

NAME,MNEM,PCH#(X(EPS), 01/01/99,31/12/99),PCH#(X(EPS),

01/01/00,31/12/00),PCH#(X(EPS), 01/01/0,31/12/01),PCH#(X(EPS),

01/01/02,31/12/02),PCH#(X(EPS), 01/01/03,31/12/03),PCH#(X(EPS),

01/01/04,31/12/04),PCH#(X(EPS), 01/01/05,31/12/05),PCH#(X(EPS),

01/01/06,31/12/06),PCH#(X(EPS), 01/01/07,31/12/07),PCH#(X(EPS),

01/01/08,31/12/08),PCH#(X(EPS), 01/01/09,31/12/09),PCH#(X(EPS),

01/01/10,31/12/10),PCH#(X(EPS), 01/01/11,31/12/11),PCH#(X(EPS), 01/01/12,31/12/12)

Step 3: Click Submit.

Another sample of the price data collection process is attached in Appendix A1.
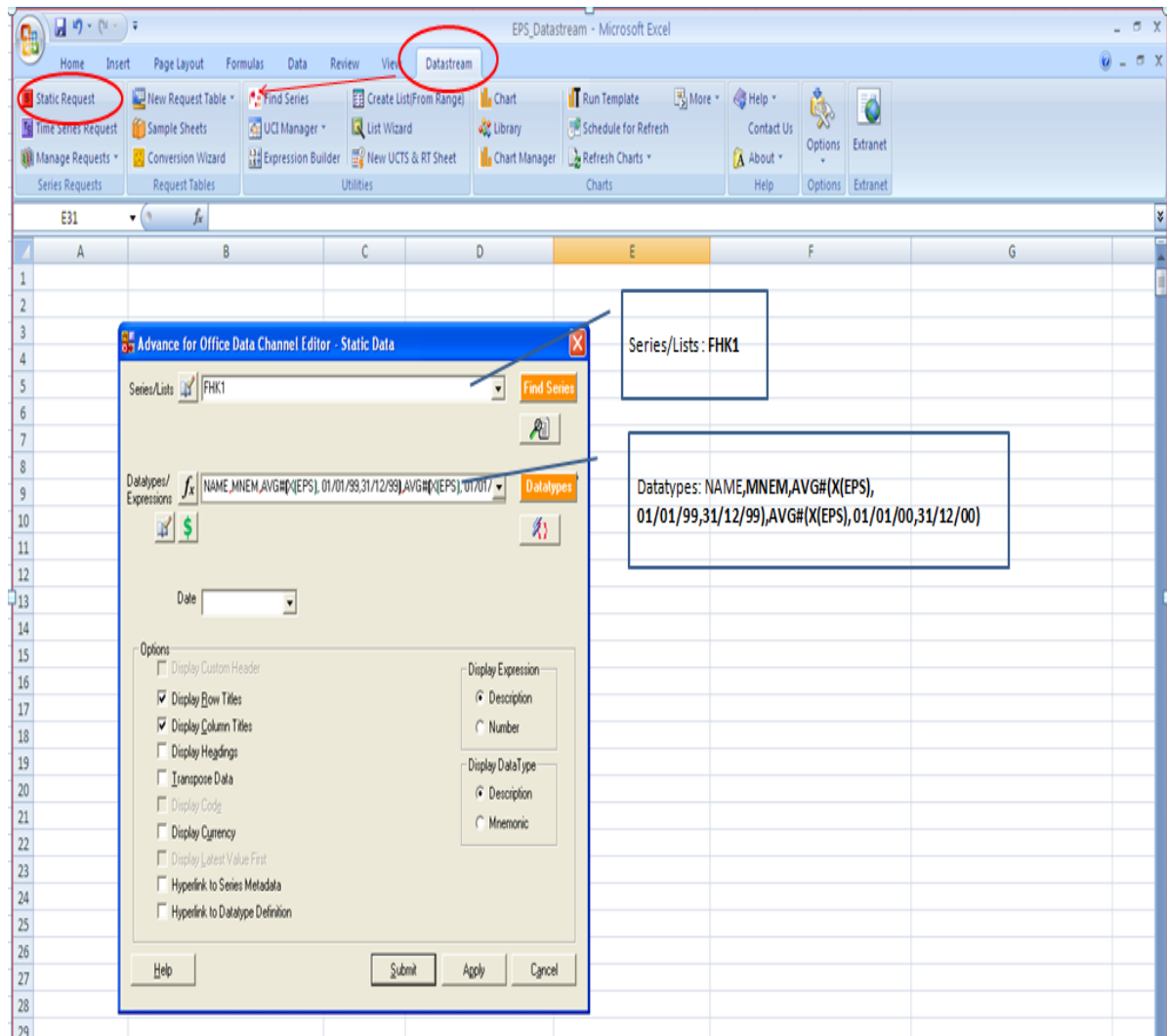
Diagram 4-1 Screenshot of data downloaded from DataStream

1. Collection of performance and control variables

Four common performance variables are considered in this study.

i. Stock return index (percentage change of total return index, variable =RIp)

The return index (RI) captures the reinvestment of dividends, not just the percentage change of the share price (i.e., the stock return). The RI tracks the capital gains of shares over time and assumes that any distributed cash dividends are reinvested back into the index. The total return of a share offers a more accurate representation of firm performance.

The formula is $Ret_{it} = (RI_{it} - RI_{it-1}) / RI_{it-1}$ (multiply by 100 for the percentage return) according to the DataStream manual. The percentage return can be calculated using a DataStream formula.

All of the data were taken from the Thomson DataStream through the Excel interface based on the company codes stored in the format prescribed by DataStream (the code FHKQ was used to download all of the listed companies in Hong Kong).

ii. Tobin's q (change in Tobin's q, variable= TC)

Developed by James Tobin, Tobin's q is the ratio between the market and replacement value of a single physical asset. According to Davies, Hillier, and McColgan (2005), Tobin's q (the proxy for corporate value) is calculated using the following formula:

Q=(MVEQ+PREF+DEBT) / BV ASSETS, i.e.,

(Equity Market Value + Liabilities Book Value) / (Equity Book Value + Liabilities Book Value),

where MVEQ is the year-end market value of the firm's ordinary shares (common stock); PREF is the year-end book value of the firm's preference shares (preferred stock), DEBT is the year-end book value of the firm's total debt and BV ASSETS is the total assets employed by the firm, measured as the total assets minus current liabilities.

This measure is consistent with the modified version of the formula as used by Chung and Pruitt (1994).

The following formula is used in DataStream:

DPL#((X(WC08001)+X(WC03351))/(X(WC03501)+X(WC03351)),6)

The DPL# function increases the decimal places of the data downloaded. Without it, a whole number is downloaded.

One interpretation of Tobin's q is that if the q ratio is significantly less than 1, then potential competitors would rather buy the firm than start a new business, and the firm' market price tends to increase. If the q ratio is more than 1, then competitors will enter the market and drive down the price of the firm until it is approximately equal to 1.

iii. Return on equity (ROE) and return on assets (ROA)

ROE is a common performance variable that measures a firm's efficiency at using equity to generate returns. It is defined as the net profit divided by the total equity.

ROA is another common performance variable that measures a firm's efficiency at using assets to generate returns. It is defined as the net profit divided by the total assets.

In this study, both types of performance variable data (ROE and ROA) were extracted from the DataStream databases using the Hong Kong companies datasets provided by Thomson.

iv. Control variables

Most of the research in this field has considered four main control variables. These variables are listed and their effects are discussed in general as follows.

i.   Board size

There are two opposing views related to the effects of board size on firm performance.

Some arguments hold that when the size of a board increases, more communication, decision-making and coordination problems are produced inside the board. Hence, negative relationships between board size and firm performance or value are generally common (Jackling & Johl, 2009; Yermack, 1996).

However, one study finds that both positive and negative effects may exist: '*Researchers have started to study boards of directors as decision-making groups by integrating literature on group dynamics and workgroup effectiveness. Hence, board size can have*

both positive and negative effects on board performance' (Van den Berghe & Levrau, 2004). According to Eisenberg, Sundgren, and Wells (1998), '*Several studies hypothesize a relation between board size and financial performance. Empirical tests of the relation exist in only a few studies of large U.S. firms'*.

ii. Firm size (total book values of assets and equity)

In line with many other studies, firm size measured using the logarithms of total asset and equity book value are included as the control variables in this study.

iii. Firm leverage (debt to equity ratio)

According to Berger and Bonaccorsi di Patti (2006), '*Corporate governance theory predicts that leverage affects agency costs and thereby influences firm performance'*. Firm leverage represented by debt ratio is an important determination of a firm's capital structure, which has great effects on the firm's performance (Margaritis & Psillaki, 2010). Hence, it is used as a control variable in this study.

iv. Firm age

Firm age (the number of years since a firm's listing) is a common control variable widely discussed in different studies and is included as one of the control variables in this study. According to Majumdar (1997), '*whether older firms are superior in performance to younger firms, or vice-versa, have generated large amounts of theoretical and empirical research in the economics, management and sociology disciplines'*.

2. Number of independent directors (INEDs)

All of the INED-related data were collected from annual reports of the HKEx. The procedures adopted to collect and extract the INED data are included in Appendix A5.

3. Information cost variables (IC)

There are three information cost variables (IC1**-IC3**) included as consideration in the original model. These variables were extracted using the IBEX database provided by Thomson Reuters, decoded using Access and then imported into a database based on several queries.

These three measures of information cost are based on the definitions of information cost used in testing the effects of INEDs on firm performance in the US (Duchin et al., 2010). The authors illustrate that the effectiveness of outside/independent directors depends on the costs of acquiring information about the firm.

When the information costs are low, the performance of the firm increases when outsiders or INED are added to the board, and the INEDs can better use the information to make decisions for the firm. In the opposite direction, if the information costs are high, firm performance deteriorates when INEDs/outsiders are added to the board, as they find it very difficult to get the information inside the firm. This study proves that INEDs have an important influence on the performance of firms in the US market after information costs are considered. There are three information cost measures (covered in more detail in **Section 8.4.1**): the number of analysts who posted forecasts during the period, the dispersion of analysts' forecasts and analyst forecast error.

A lot of time was spent collecting this analyst and forecast information. The author contacted the database provider (IBEX) to better understand the process used to extract the raw data from its special database into Access and Excel spreadsheet formats and finally transform them into panel data. However, only about 30% of the firm data available in the databases could be used (or data were missing for the majority of the research period). Hence, these variables are not taken into account for the fixed effects panel data regression.

Doing so would base the results on an unbalanced dataset (many missing values) and create

distortion.

4. Variable definitions

All of the variables are identified and defined in the following table.

Variable	Definitions
Year	Year of the data
IC1**	Information cost 1= Number of analysts who posted forecasts
IC2**	Information cost 2= Dispersion of analysts' forecasts
IC3**	Information cost 3= Analyst forecast error
FA	Firm age of listing
P	Share price
STRN	Stock return
T	Tobin's q
TC	Change in Tobin's q
INEDR	Ratio of independent directors
INEDN	Number of independent directors
BS	Board size
ROE	Return on equity
ROA	Return on asset
DE	Debt to equity ratio
Mkt	Market value of shares
TA	Total asset book value
Debt	Total debt book value
Equity	Total equity book value
RIp	Percentage change of stock return index (with capital gains and reinvestment of dividends)
logTA	Total asset book value, logarithm
logMkt	Market value of shares, logarithm
logDebt	Total debt book value, logarithm
logEquity	Total equity book value, logarithm

Table 4-2 Variable definitions

Table 4-3 presents template of the analysis results.

	Dependent variables			
	Stock return with reinvestment of dividend (RI)	Change in Tobin's q (TC)	Return on equity (ROE)	Return on assets (ROA)
Ratio of independent directors (INEDR)				
Firm age (FA)				
Leverage ratio (DE)				
Board size (BS)				
Book value of equity, logarithm (logEquity)				
Book value of debt, logarithm (logDebt)				
Book value of total assets, logarithm (logTA)				
Market value of equity, logarithm (logMkt)				

Table 4-3 Template of analysis of effects of INEDs on firm performance

Table 4-4 displays descriptive statistics of the variables for the Hong Kong companies.

Variable	Obs.	Mean	Std. Dev.	Min	Max
Year	10,524	2,005.5	3.452217	2,000	2,011
IC1	2,786	0.486171	0.3076876	0	1
IC2	2,775	0.471855	0.2924863	0	1
IC3	1,052	0.512533	0.2813941	0	1
FA	9,846	11.86817	7.398302	1	38
EPS	10,102	2.314098	59.82187	0	4,936.79
PE	7,645	39.19058	228.0466	0	8245.6
P	10,254	199.8236	7,003.871	0.003	563,136.9
STRN	9,256	0.172533	1.243247	-0.98403	56.71429
T	9,409	5.269405	177.2929	-21.5265	15,078.29
TC	8,551	0.090443	0.5928598	-0.75288	3.557963
INEDR	9,968	0.36252	0.1602167	0	1
INEDN	9,968	2.910213	1.498357	0	16
BS	10,500	7.815429	4.092793	0	38
ROE	5,729	0.14362	0.1404871	0.0033	0.8645
ROA	10,347	-0.04274	0.3005419	-1.83799	0.421724
DE	9,634	44.42688	2,238.287	-147041	135,270.1
Mkt	10,142	1.15E+07	8.40E+07	2045	2.76E+09
TA	10,355	2.97E+07	4.87E+08	467	1.98E+10
Debt	10,358	5462633	7.96E+07	0	3.26E+09
Equity	10,356	7192187	4.35E+07	-1.49E+07	1.22E+09
RIp	9,249	0.242291	1.063181	-0.9056	5.6966
logTA	10,355	14.00846	2.128746	6.146329	23.7084
logMkt	10,142	13.53408	1.960647	7.623153	21.73936
logDebt	9,008	12.06382	2.733433	1.098612	21.90542
logEquity	9,849	13.4925	2.022361	0.693147	20.92368

Table 4-4 Descriptive statistics for Hong Kong companies

4.5 Setup and input of data into proper panel data format for analysis

All of the different variable data were extracted from different databases and sources and then sorted and grouped by company nature and year into different worksheets for further

input. An extract of the data with companies on the first row and different years as different columns are provided as a reference (Diagram 4-2). The data are winsorised to eliminate outliers. The **winsor2** command in Stata is used to winsorise those data outside the 1% and 99% range.

StockNo	Name	FA2000	FA2001	FA2002	FA2003
97	HENDERSON INV.	27	28	29	30
662	ASIA FINCIAL HDG.	12	13	14	15
1111	CHONG HING BANK	6	7	8	9
715	HUTCHISON HARBOUR RING	9	10	11	12
8035	BINHAI INVESTMENT		1	2	3
40	GOLD PEAK INDS.	16	17	18	19
103	SHOUGANG CCRD.CEN.HDG.	8	9	10	11
114	HERALD HOLDINGS	12	13	14	15
148	KINGBOARD CHEMICAL HDG.	6	7	8	9
168	TSINGTAO BREWERY 'H'	7	8	9	10
338	SINOPEC SHAI.PETROCHEM. 'H'	7	8	9	10
506	CHI FOODS	11	12	13	14
511	TELEVISION BROADCASTS	11	12	13	14
1109	CHI RESOURCES LAND	3	4	5	6
16	SUN HUNG KAI PROPERTIES	27	28	29	30
480	HKR INTERTIOL	12	13	14	15

Diagram 4-2 Extract of the 'wide form' panel data

All of the different worksheets are combined into a single combined data worksheet as the input format for statistical analysis ('wide form' format). However, the different worksheets cannot simply be added together. To join all of the companies with different variables and years, all of the different worksheets are imported into Access and linked together via queries into a 'wide form' database using SQL (by Union Select and LEFT JOIN command), as shown in Diagrams 4-3 and 4-4. The sample SQL command sentences

are included in Appendix A2.
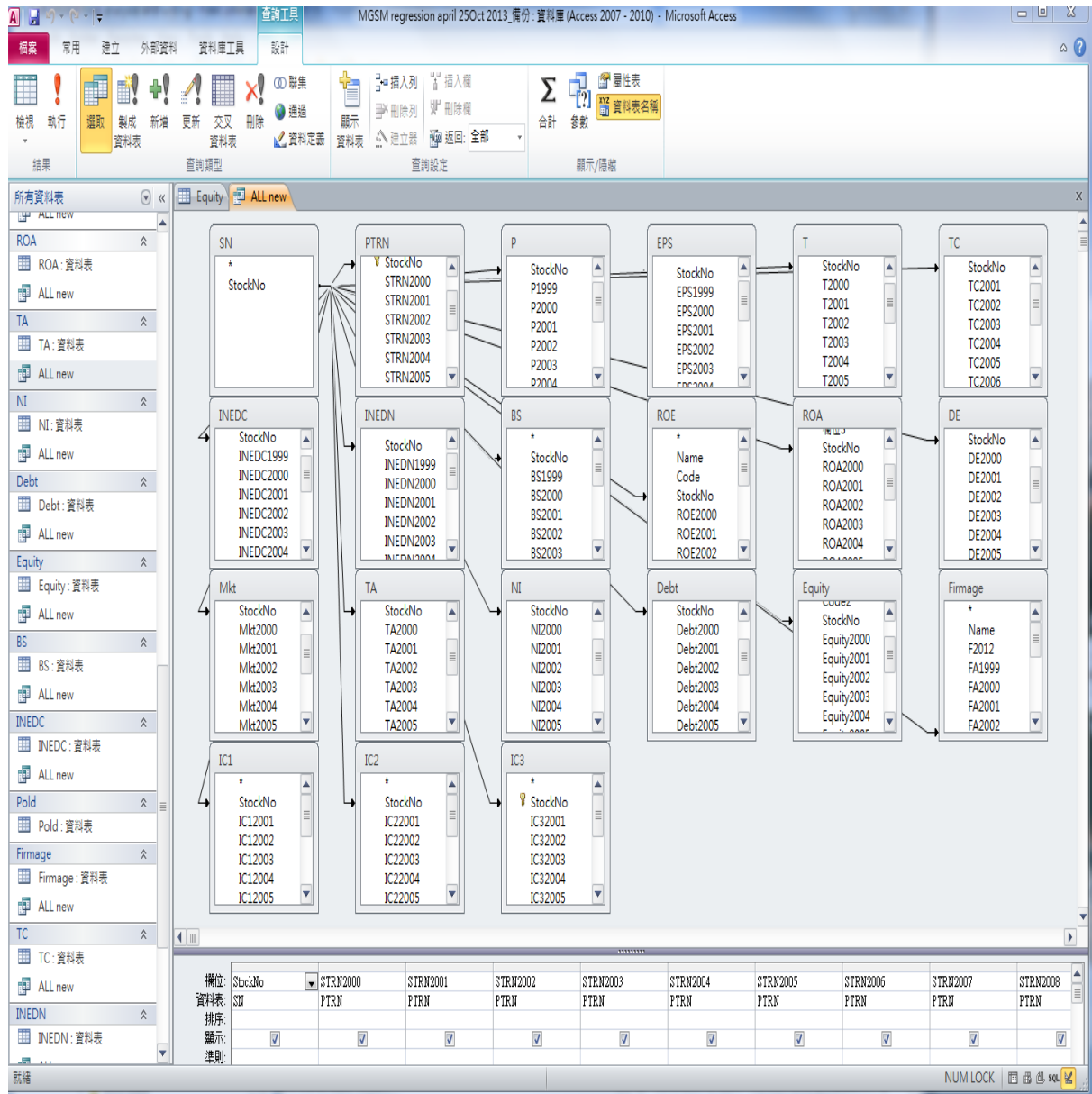
Diagram 4-3 Screenshot of the query using Access
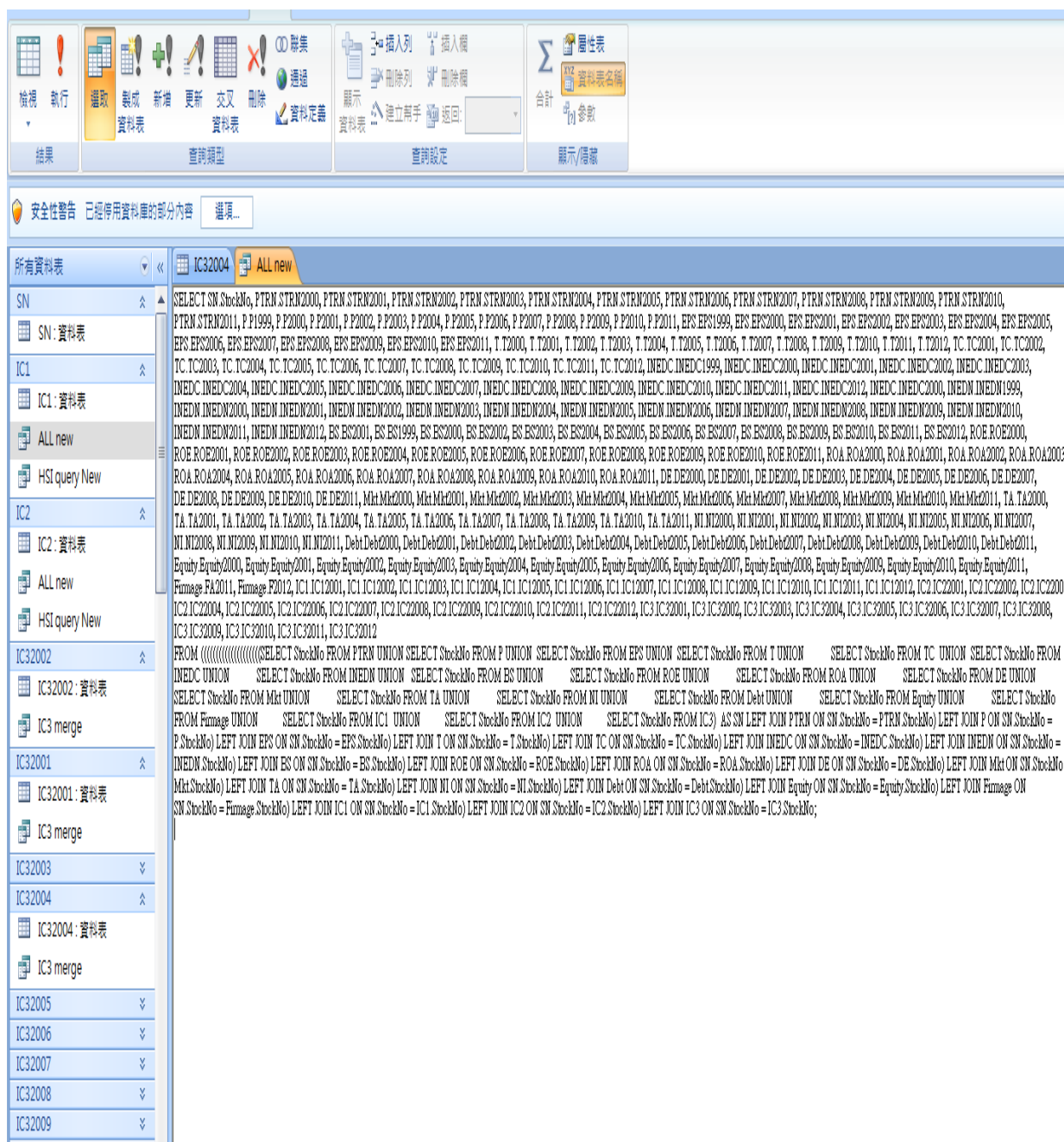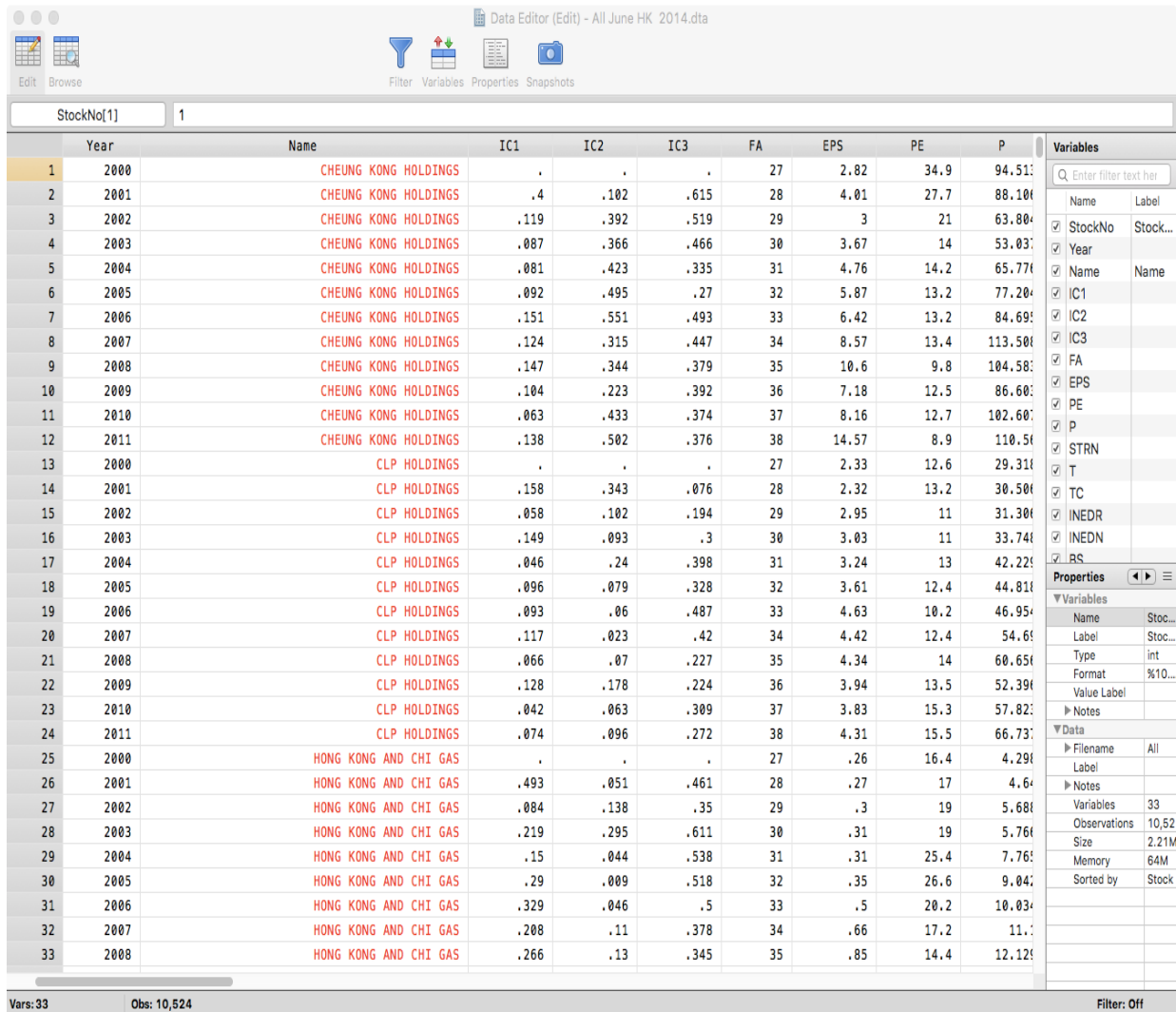
Diagram 4-4 Screenshot of SQL used to run the query to join different tables into the 'wide form' format for input into the database

Stata commands *xtset* and *reshape* are then used to convert the database from the 'wide form' format into the 'long form' format for further input into the program and to set up the panel data regression. The sample commands are included in Appendix A3 as a reference.

Diagram 4-5 shows the panel data in the 'long form' format.

Diagram 4-5 Long form of panel data

4.6 Grouping and classification of companies

In this study, there are 877 companies covering 2000-2011 available in the database, including 151 Chinese companies and 726 non-Chinese companies.

The total number of companies in the panel was extracted from different databases (mainly DataStream with other information sources) during the research period. All the companies

are divided into two main groups/categories according to their Chinese/non-Chinese status. The Chinese companies are further divided into the H-share and red chip companies. These Chinese companies can be further classified into main board and GEM categories. The non-Chinese companies are further divided into family- and non-family-controlled firms. Diagram 4-6 illustrates the grouping arrangements.

All of the companies can be classified into main board and GEM categories with a particular focus on HSI constituent companies to determine an optimal INEDR in terms of changes in their performance (Diagram 4-7).

The company groupings are shown in the following two diagrams.

```
                        ┌─────────────────────────┐
                        │ All Hong Kong companies │
                        │          (877)          │
                        └─────────────────────────┘
                                     │
                  ┌──────────────────┴──────────────────┐
                  ▼                                      ▼
    ┌────────────────────────────┐          ┌────────────────────────┐
    │ Non-Chinese (H-share and   │          │ Chinese H-share and red│
    │ red chip) companies**      │          │ chip companies         │
    │          (726)             │          │        (151)           │
    └────────────────────────────┘          └────────────────────────┘
                  │                              ╱              ╲
         ┌────────┴────────┐              ▼                     ▼
         ▼                 ▼      ┌───────────┐          ┌───────────┐
  ┌────────────┐  ┌────────────────┐  │ H-shares  │      │ Red chips │
  │  Family    │  │  Non-family    │  │   (63)    │      │   (88)    │
  │ controlled │  │  controlled    │  └───────────┘      └───────────┘
  │   (539)    │  │    (187)       │    ╱        ╲         ╱       ╲
  └────────────┘  └────────────────┘   ▼          ▼       ▼         ▼
                              ┌────────┐ ┌──────┐ ┌────────┐ ┌──────┐
                              │Main    │ │ GEM  │ │Main    │ │ GEM  │
                              │board   │ │      │ │board   │ │      │
                              │(53)    │ │(10)  │ │(86)    │ │(2)   │
                              └────────┘ └──────┘ └────────┘ └──────┘
```
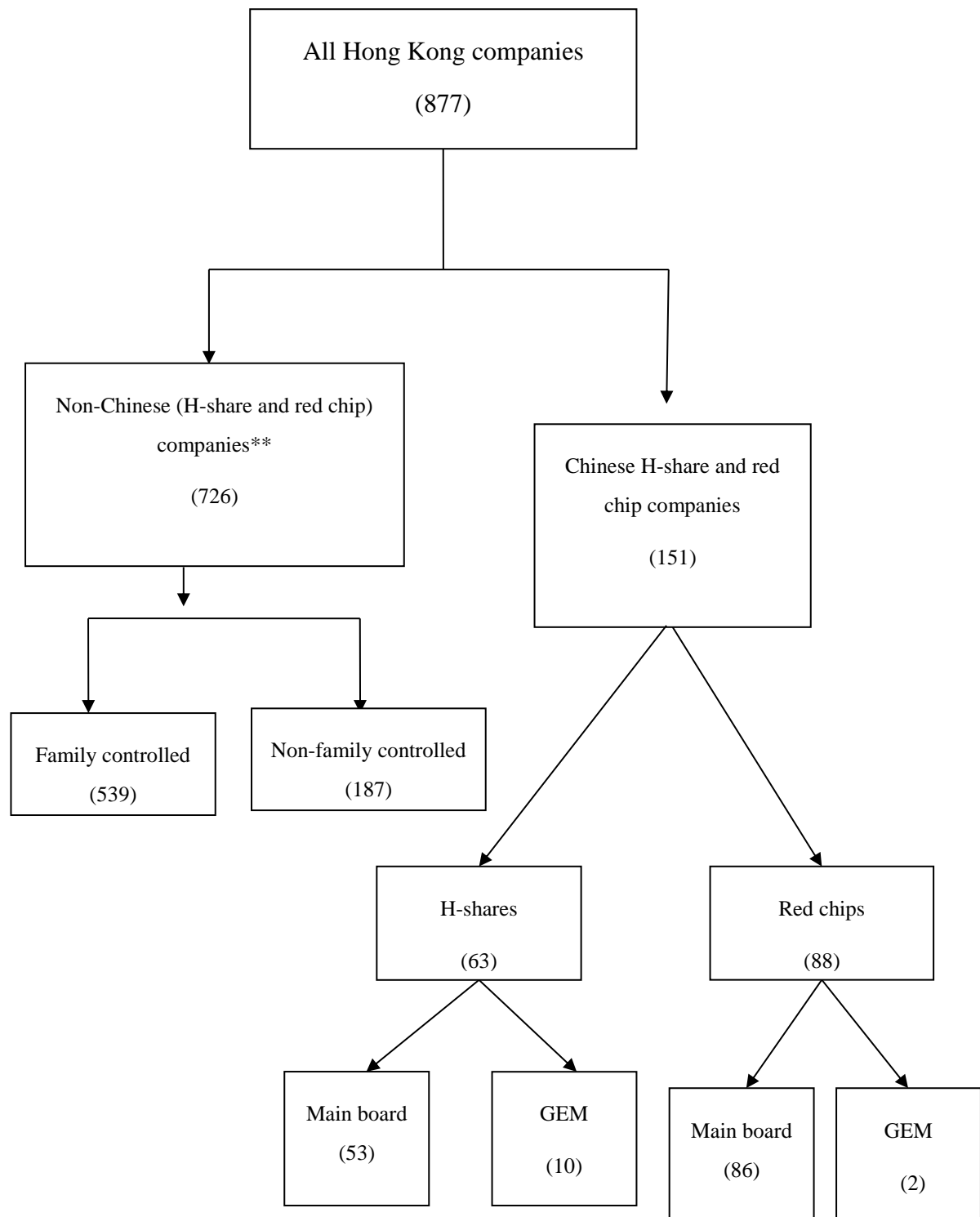
**Includes those private Chinese enterprizes.

Diagram 4-6 Different types of companies listed in Hong Kong: Classification I

```
┌──────────────────┐                          ┌──────────────────────┐
│ Possible optimal │                          │ All Hong Kong companies │
│   INEDR for      │ ───────────────────────▶ │                        │
│ companies in Hong│                          │        (877)           │
│     Kong?        │                          └──────────────────────┘
└──────────────────┘
```

```
        ┌──────────────┐              ┌──────────────┐
        │  Main board  │              │     GEM      │
        │    (774)     │              │    (103)     │
        └──────────────┘              └──────────────┘

   ┌──────────┐        ┌──────────┐
   │ HSI (36) │        │ Non-HSI  │
   │          │        │  (738)   │
   └──────────┘        └──────────┘
```
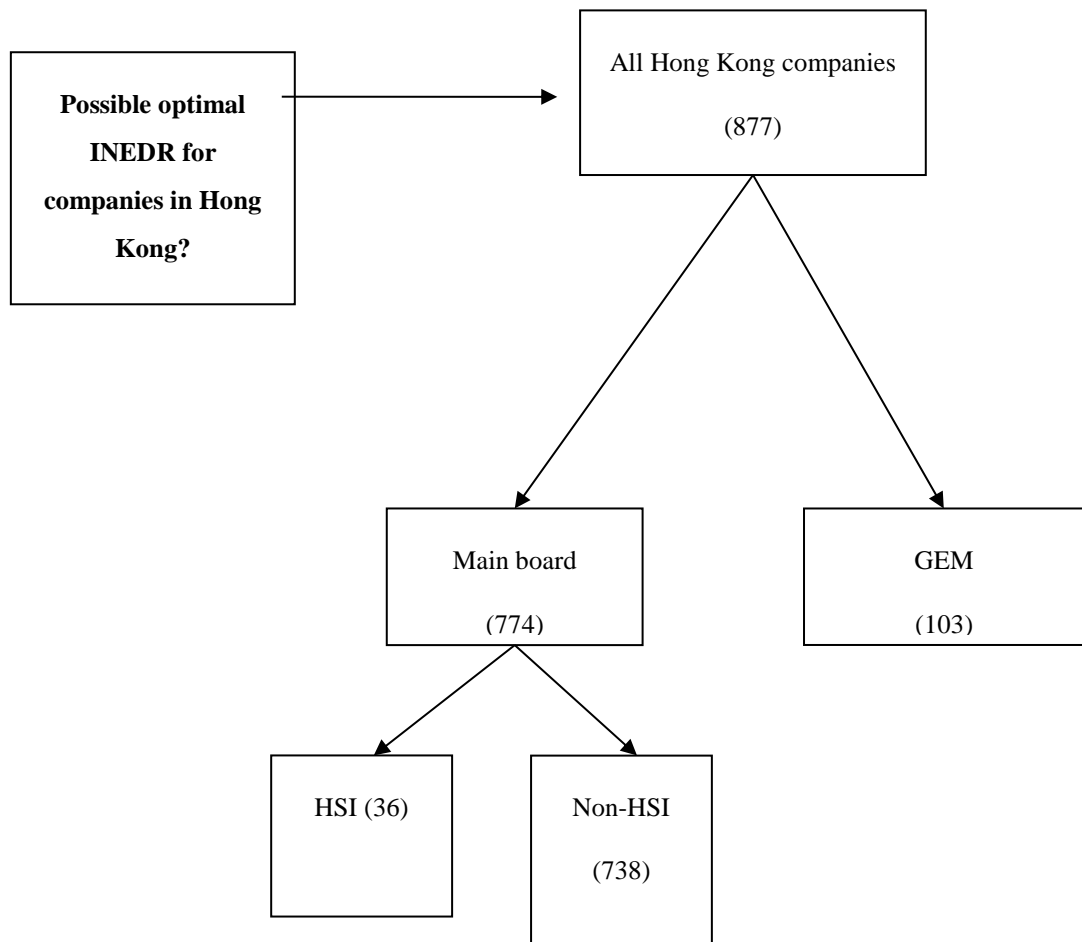
Diagram 4-7 Different types of companies listed in Hong Kong: Classification II

4.7 Summary

This chapter discusses the data collection procedures for the different dependent, independent and control variables along with the transformation techniques required for the proper panel data input format and preparation. It also discusses the division of companies into segments or groups.

Preparing and building the database and getting all of the data ready for analysis involved a long and difficult process, as the sources were not easy to find and consolidate. Some of the source data were incomplete, especially the information cost and family ownership data. Hence, constructing the database for further analysis was time consuming. Once completed, the database was changed into the appropriate format for additional panel data analysis.

Chapter 5.   Hong Kong, Hang Seng Index (HSI) Constituent and GEM Listed Companies

5.1 Introduction: Overview of effects of INEDs on the performance of firms in Hong Kong

This chapter presents an overall picture of the effects of INEDs on the performance of firms in Hong Kong.

First, all of the companies in the database are subjected to the panel data preparation arrangement following the procedures outlined in Chapter 4 and inputted into the Stata program for panel data analysis. The HSI constituent companies, which are the most important representative companies in the stock exchange, accounting for 58% of the market capitalisation of the listed companies in Hong Kong, are analysed in Section 5.2.

1. Listed companies in Hong Kong

As shown in Diagrams 4-6 and 4-7, there are 877 companies from the research database available for analysis beginning in the first year under consideration.

Diagram 5-1 shows the correlations of the variables for all of the Hong Kong companies.

	RIp	TC	ROE	ROA	INEDR	FA	BS	DE	Log TA	Log Mkt	Log Debt	Log Equity
RIp	1											
TC	0.429	1										
ROE	0.0866	-0.0067	1									
ROA	0.1366	0.0481	0.1974	1								
INEDR	**0.0289**	**0.0043**	**0.0319**	**0.0838**	1							
FA	**-0.0307**	**-0.0049**	**-0.0148**	**-0.0718**	-0.0552	1						
BS	**-0.0165**	**-0.0068**	**-0.018**	**-0.0889**	-0.331	0.395	1					
DE	**-0.0118**	**-0.019**	**0.1296**	**-0.0988**	-0.0017	-0.0068	0.0684	1				
logTA	**-0.0529**	**-0.0579**	**-0.0339**	**-0.1001**	-0.1547	0.475	0.561	0.112	1			
logMkt	**0.0474**	**0.0731**	**0.0049**	**0.0967**	-0.1444	0.4072	0.5506	0.0451	0.8886	1		
logDebt	**-0.0663**	**-0.0707**	**-0.017**	**-0.2001**	-0.1565	0.3526	0.4395	0.218	0.8243	0.6664	1	
logEquity	**-0.0538**	**-0.0495**	**-0.0918**	**-0.0448**	-0.1716	0.4999	0.5492	-0.0081	0.9641	0.8985	0.7518	1

Table 5-1 Variable correlations for all of the Hong Kong companies

All of the correlations of the performance variables with INEDR are positive, ranging from 0.4% (TC) to 8.4% (ROA). As discussed in Chapter 4, the correlations of the performance variables with board size are negative. However, when they are included in the panel regressions under different segments, only a few of the effects are positive and significant and the rest are insignificant. The correlations of the performance variables with firm age, firm size and debt ratio are negative in general.

Following the statistical analysis procedures in diagrams 3.1 and 3.2, a Breuch-Pagan LM test is conducted to determine whether the random effects panel regression or pooled OLS should be used. If the pooled OLS should not be used, an additional F-test is conducted to determine whether the fixed effects model should be fitted. According to analysis in Chapter 3, the fixed effect models for the four performance variables are fitted. Table 5-2 shows the results.

2. Discussion of results (fixed effects model)

	Dependent variables			
	Stock return with reinvestment of dividend (RI)	Change in Tobin's q (TC)	Return on equity (ROE)	Return on asset (ROA)
Ratio of independent directors (INEDR)	0.078	-0.126**	0.024	0.084***
	(0.478)	(0.027)	(0.153)	(0.000)
Firm age (FA)	-0.027***	-0.002	-0.001	-0.006***
	(0.000)	(0.391)	(0.303)	(0.000)
Leverage ratio (DE)	0.000	0.000	0.000**	0.000
	(0.039)	(0.598)	(0.033)	(0.375)
Board size (BS)	0.020***	0.000	0.001	0.000
	(0.001)	(0.874)	(0.336)	(0.963)
Book value of equity, logarithm (logEquity)	-0.078**	-0.093***	-0.122***	0.058***
	(0.060)	(0.000)	(0.000)	(0.000)
Book value of debt, logarithm (logDebt)	0.000	0.011	-0.005	-0.010
	(0.974)	(0.055)	(0.003)	(0.000)
Book value of total assets, logarithm (logTA)	-0.459***	-0.268***	0.073***	-0.009
	(0.000)	(0.000)	(0.000)	(0.315)
Market value of equity, logarithm (logMkt)	0.740***	0.333***	0.055***	0.022***
	(0.000)	(0.000)	(0.000)	(0.000)

Table 5-2 Fixed effects model results for all Hong Kong companies

(***, ** and * represent significance at the 1%, 5% and 10% levels, respectively)

The effects of INEDs on firm performance are inconsistent or mixed across all of the Hong Kong companies. Only one of the three positive performance values is significant (ROA), and one effect is negative and significant (Tobin's q). The results are supported by the finding that board independence has no effect on improved firm performance (Bhagat & Black, 2002; Dulewicz & Herbert, 2004). However, the connection between board independence and firm performance is prone to scepticism, as poor performance may cause an increase in board independence (B. E. Hermalin & Weisbach, 2003). Whether those non-significant effects are correct in general must be tested and verified by dividing all of the companies into different groups or sectors according to their different natures for further analysis before a universal conclusion for the companies in Hong Kong can be reached.

Several studies have indicated that the effectiveness of outside directors or INEDs depends on the information environment and that a higher proportion of INEDs is associated with more effective monitoring and constrained earnings management. This suggests that a higher proportion of INEDs on corporate boards is likely to deter managers from manipulating reported earnings. Thus, the quality of the reported earnings of firms with higher proportions of INEDs is expected to be high.

INED effectiveness may account for the inconsistent results related to the effects of independent directors on the performance of all of the Hong Kong companies. There are various possible reasons why INEDs are ineffective at monitoring or increasing the value of a business, and they are discussed further in later chapters.

3. Role of information costs in the recent development of the effects of INEDs on firm performance

Understanding the link between information costs and the number of independent directors is vital to understanding the effects of INEDs on firm performance (Duchin et al., 2010).

The relationship between the number of INEDs and firm performance reveals that the effectiveness of outside directors depends on the costs of acquiring information about the firm. When these costs are low, a firm's performance improves when outside directors are added to the board. That increasing the number of INEDs enhances firm performance is only more apparent or effective when the information costs are low, which allows outside directors or INEDs to access information about the firm more easily.

According to Duchin et al. (2010), when an outsider's cost of acquiring information about the firm is high, outside directors are less effective at monitoring and providing advice than when the information costs are low. To explore this foundational assumption, firm-specific proxies for the cost of becoming informed are constructed, and the relationship between firm performance and board independence that is conditional on information cost is estimated. Using US data, Duchin et al. (2010) measure firm performance based on earnings, Tobin's q or stock returns together with several other different information cost measures. The estimated magnitudes are not quite significant: a 10% increase in the percentage of outside directors on boards is associated with only a 1.3% higher ROA in firms with information costs in the lowest quartile compared with a 1.7% lower ROA (a decrease) in firms with information costs in the highest quartile, with other determinants of performance controlled for. At the same time, a 10% increase in board independence is associated with an 8.1% higher Tobin's q in firms with low information costs compared with a 15.8% lower Tobin's q (a decrease) in firms with high information costs.

In conclusion, when INEDs apply their expertise and experience to a company with lower (or more transparent) information costs, they contribute more effectively to better firm performance. In this study, although the information cost data were also captured from the IBES database, there were surprisingly not enough data available. The missing data would

have produced incorrect results. The sample and empirical results are reported in Chapters 4 and 5.

Hence, given the low percentage of information cost data available in Hong Kong, especially for family-controlled, stated-owned (H-share) and red chip companies, the information cost or transparency of the firms are subject to query and would be explored further in later chapters.

5.2 HSI constituent companies

1. Introduction

Hang Seng Indexes Company Limited (a wholly owned subsidiary of Hang Seng Bank) is responsible for the maintenance of the HSI, one of the earliest stock market indexes in Hong Kong (http://www.hsi.com.hk/HSI-Net/HSI-Net).

2. The composition of HSI constituent companies

The HSI was publicly launched on 24 November 1969 and has since become the most widely quoted indicator of the performance of the Hong Kong stock market.

To better reflect the price movements of the major market sectors, HSI constituent stocks are grouped into finance, utilities, properties, and commerce and industry sub-indexes.

The HSI is important because all of the companies it represents are market leaders that act as representatives of the Hong Kong stock market, representing about 65% of the total capitalisation of the equity in Hog Kong as at the end of 2012.

Change in composition

Table 5-3 shows the listed companies as at October 2002 and October 2012 for reference. Analysis is based on the updated list in 2012 (as all 36 companies were listed in 2002) and not on the original list in 2002, as some was excluded from the HSI during the period under

consideration.

	October 2012			October 2002
1	Cheung Kong Holdings		1	Cheung Kong
2	CLP Holdings		2	CLP Hldgs
3	Hong Kong And Chi Gas		3	HK & China Gas
4	Wharf Holdings		4	Wharf Holdings
5	HSBC Holdings		5	HSBC Holdings
6	Power Assets Holdings		6	HK Electric
			8	~~PCCW~~
11	Hang Seng Bank		11	Hang Seng Bank
12	Henderson Ld.Dev.		12	Henderson Land
13	Hutchison Whampoa		13	Hutchison
16	Sun Hung Kai Properties		16	SHK Prop
17	New World Dev.		17	New World Dev
19	Swire Pacific 'A'		19	Swire Pacific 'A'
			20	Wheelock
23	Bank Of East Asia		23	Bank of E Asia
27	Galaxy Entertainment Gp.			
66	MTR		66	MTR Corporation
83	Sino Land		83	Sino Land
			97	~~Henderson Inv~~
101	Hang Lung Properties		101	Hang Lung Prop
135	Kunlun Energy			(formerly Amoy Prop)
144	Chi Mrch.Hdg.Intl.		179	Johnson Elec H
267	CITIC Pacific		267	CITIC Pacific
291	Chi Res.Enterprise		291	China Resources
293	Cathay Pacific Airways		293	Cathay Pac Air
322	Tingyi Cymn.Isle.Hldg.		330	Esprit HLDGS
386	Chi Ptl.& Chm. 'H'		363	Shanghai IND HLDGS
388	Hong Kong Exs.& Clear.			
494	Li & Fung		494	Li & Fung
688	Chi Os.Ld.& Inv.		511	~~TVB~~
762	Chi Unicom (Hong Kong)		762	China Unicom
857	Petrochi 'H'			
883	Cnooc		883	CNOOC

941	Chi Mobile		941	China Mobile
992	Lenovo Group		992	Legend Group
1044	Hengan Intl.Gp.			(formerly Legend Hldgs)
1109	Chi Resources Land		~~1038~~	~~CKI Hldgs~~
1199	Cosco Pacific			
2388	BOC Hong Kong (Hdg.)		2388	BOC Hong Kong

Table 5-3 HSI company changes as at October 2002 and October 2012

3. Discussion of results (HSI) (fixed effects model)

Analysis of the panel regression results follows the same methodology used in Section 5.1.

	Dependent variables			
	Stock return with reinvestment of dividend (RI)	Change in Tobin's q	Return on equity (ROE)	Return on assets (ROA)
Ratio of independent directors (INEDR)	0.004	-0.287	0.023	0.011
	(0.994)	(0.252)	(0.562)	(0.747)
Firm age (FA)	0.060***	0.045***	0.000	0.002
	(0.002)	(0.000)	(0.802)	(0.155)
Leverage ratio (DE)	-0.001	-0.001	0.000	0.000
	(0.574)	(0.450)	(0.858)	(0.725)
Board size (BS)	0.017	(0.003)	0.003**	0.000
	(0.202)	(0.741)	(0.030)	(0.838)
Book value of equity, logarithm (logEquity)	-1.030***	-0.640***	0.008	0.065***
	(0.000)	(0.000)	(0.766)	(0.004)
Book value of debt, logarithm (logDebt)	0.046	-0.012	-0.008	-0.010**
	(0.542)	(0.762)	(0.227)	(0.085)
Book value of total assets, logarithm (logTA)	-0.372	-0.174	-0.033	-0.093***
	(0.159)	(0.232)	(0.186)	(0.000)
Market value of equity, logarithm (logMkt)	0.765***	0.433***	0.049***	0.035***
	(0.000)	(0.000)	(0.000)	(0.000)

Table 5-4 Fixed effects model results for HSI constituents in Hong Kong

(***, ** and * represent significance at the 1%, 5% and 10% levels, respectively)

The effects of increasing the number of INEDs on the firm performance variables are insignificant and also inconsistent, results that are comparable with those of all of the Hong Kong companies in Section 5.1. However, they are generally positive, and the magnitude and significance of the effects of INEDR decrease, probably due to the assumption that HSI constituent companies are leaders or the best in their fields and are assumed to have better corporate governance structures and controls. Hence, the influence of INEDs on firm performance should not be the same across all of the companies in Hong Kong in general. The index also includes 16 family businesses (44.4%) and 14 China SOE/red chip companies (38.9%). Again, they are probably the leaders in the field, and their governance is hence assumed to perform much better than that of other similar companies in the same industry.

As a result, the increasing effects of INEDs on the performance of these HSI companies are insignificant.

5.3 GEM companies

1. Background and history of the GEM in Hong Kong

The setup of the GEM is similar to other alternative investment market (AIM) arrangements in other stock markets, such as the AIM market in London, which is a sub-market of the London Stock Exchange (LSM) and Nasdaq. The AIM was established in the UK in 1995. Since then, the LSM rules have required each company wishing to join the AIM to have a nominated advisor and broker. The corporate governance structures of these companies rely heavily on these advisors: '*AIM's model relies heavily on lower listing standards and lighter ongoing requirements for listed companies, paired with the so-called 'Nominated Adviser,' a private consultant that guides firms through their existence as listed companies*' (Mendoza, 2008).

AIMs are mainly set up to list small and mid-cap growth companies with less stringent listing requirements. The lower listing standards and success of the AIM in London have created many other similar sub-markets in Europe and other regions around the world such as Hong Kong (Mendoza, 2008).

According to the HKEx website, the GEM is set up to help those companies that cannot meet the profitability/track record of the main board to find another way of listing in the Hong Kong stock market:

> *As a gateway to Mainland China and with close trading and business links to other Asian economies, Hong Kong is strategically placed in a high growth region. Over the years, Hong Kong has developed into an internationally recognized financial centre and has provided many Asian and multinational companies with fund-raising opportunities. Growth enterprises particularly those emerging ones, i.e. enterprises that have good business ideas and growth potential, however, may not always be able to take advantage of these opportunities. A great number of them do not fulfil the profitability/track record requirements of the existing market of the Stock Exchange of Hong Kong (i.e. main board of the Exchange) and are therefore unable to obtain a listing. The Growth Enterprise Market (**GEM**) is designed to bridge this gap.* (http://www.hkgem.com/aboutgem/e_default.htm?ref=3%3A)

In summary, the main functions of the GEM are i. to make it easier for GEM companies to raise capital without profitability records; ii. to create an opportunity for professional investors to invest in high risk companies, i.e., a market designed to accommodate companies to which a high investment risk may be attached (P. T. Chan, Moshirian, Ng, & Wu, 2007); iii. to promote the development of technology industries in Hong Kong; and iv. to provide an exit ground and a venue for further fundraising for investments made by

venture capitalists.

The main details of the functions are quoted as follows (HKEX, 2013a).

> ***GEM offers growth enterprises an avenue to raise capital.*** *The Growth Enterprise Market does not require growth companies to have achieved a record of profitability as a condition of listing. This removal of entry barrier enables growth enterprises to capitalize on the growth opportunities of the region by raising expansion capital under a well-established market and regulatory infrastructure. Besides the listing of local and regional enterprises, international growth enterprises can enhance their business presence and raise their product profile in China and Asia by listing on GEM.*

> ***GEM offers investors an alternative of investing in 'high growth, high risk' businesses.*** *The future performance of growth companies particularly those without a profit track record is susceptible to great uncertainty. Because of the higher risks involved, GEM is designed for professional and informed investors. It works on the basis of caveat emptor or buyers beware.*

> ***GEM provides a fund raising venue and a strong identity to foster the development of technology industries in Hong Kong and the region.*** *GEM is opened to growth companies big and small engaged in all industries. Technology companies in particular should find it attractive to align themselves with the strong growth theme of the market. In providing a fund raising venue and a strong identity to technology companies, GEM complements and supports the HKSAR Government's initiative to promote the development of technology industries in Hong Kong.*

> *GEM promotes the development of venture capital investments. GEM provides both an exit ground and a venue for further fund raising for investments made by venture capitalists. This facilitates more and earlier investments to be made by the venture capitalists in support of the growth of the industry.*

2. Discussion of the results (GEM)

It is well known and reported that GEM companies have underperformed after their initial public offerings (IPOs) since the launching of the GEM (P. T. Chan et al., 2007).

In general, as shown in Table 5-5, increasing the number of INEDs has positive and very significant effects on stock returns as performance variables under the fixed effects regression model.

	Dependent variables			
	Stock return with reinvestment of dividend (RI)	Change in Tobin's q	Return on equity (ROE)	Return on assets (ROA)
Ratio of independent directors (INEDR)	**2.031*****	0.826	-0.244	0.121
	(0.003)	(0.211)	(0.272)	(0.298)
Firm age (FA)	-0.155***	- 0.019	0.000	-0.011
	(0.001)	(0.654)	(0.980)	(0.146)
Leverage ratio (DE)	0.000	0.000	0.000**	0.000
	(0.435)	(0.739)	(0.021)	(0.326)
Board size (BS)	0.122***	0.060	0.017	0.014**
	(0.001)	(0.114)	(0.184)	(0.040)
Book value of equity, logarithm (logEquity)	-0.132	-0.226	-0.294***	0.073***
	(0.390)	(0.149)	(0.000)	(0.007)
Book value of debt, logarithm (logDebt)	0.075	0.098	-0.035**	-0.008
	(0.236)	(0.120)	(0.065)	(0.448)
Book value of total assets, logarithm (logTA)	-0.538**	-0.526**	0.328***	-0.020
	(0.017)	(0.021)	(0.000)	(0.614)
Market value of equity, logarithm (logMkt)	1.006***	0.592***	0.031	-0.005
	(0.000)	(0.000)	(0.294)	(0.766)

Table 5-5 Fixed effects model results for GEM companies in Hong Kong

(***, ** and * represent significance at the 1%, 5% and 10% levels, respectively)

The increase in INEDR has a much higher effect on stock returns for the companies in this GEM sector. (A 1% increase in the ratio implies a 2.03% increase in stock return performance.)

The result can be explained if attributed to the immature business nature of the GEM, where the average firm size is small in general and the corporate governance of these firms is probably not meeting the normal standards of the HKEx. In this case, INEDs play an important role in firms as expected. The increases in the number and ratio of INEDs raise the standards of the board and better firm performance follows, as verified by preceding analysis.

5.4 Possible optimal ratio of INEDs in Hong Kong

1. Analysis

According to Diagrams 4.6 and 4.7, 877 companies are available for consideration in the dataset. Table 5.6 shows the distribution of companies according to INEDR in 2004. More than 60% of the companies already had boards of directors comprising one third INEDs in 2004. The research design determines whether this has different effects on firm performance by grouping the companies according to INEDR in 2004, with the assumption that those groups that meet the requirements keep more or less the same ratio after 2004, the year in which an exogenous change to the policies took place, increasing the required number of INEDs on boards from two to three. The INEDR increases after 2004 for the groups that fail to meet the standards.

% of INED in 2004	No. of companies	Proportion of total number of companies
0-9.99%	44	5.02%
10- 19.99%	20	2.28%
20-29.99%	140	15.96%
30-39.99%	256	29.19%
40-49.99%	176	20.07%
50-59.99%	149	16.99%
60-69.99%	71	8.10%
70-100%	21	2.39%
Total	877	100.00%

Table 5-6 Distribution of companies according to INEDR in 2004

	Dependent variables (stock return, variable RIp only) in different groups by % of INED (INEDR)							
	0-9.99%	10-19.99%	20-29.99%	30-39.99%	40-49.99%	50-59.99%	60-69.99%	70-100%
Ratio of independent directors (INEDR)	1.063	-0.378	0.259	-0.213	-0.253	0.760***	0.471	3.156***
	(0.150)	(0.679)	(0.683)	(0.320)	(0.265)	(0.010)	(0.371)	(0.009)
Firm age (FA)	-0.065	0.017	-0.037	-0.041***	-0.006	-0.026	-0.023	-0.076
	(0.189)	(0.611)	(0.169)	(0.000)	(0.626)	(0.102)	(0.394)	(0.342)
Leverage ratio (DE)	0.001	0.003	0.000	0.000**	0.000	0.000	0.001	0.008***
	(0.182)	(0.430)	(0.730)	(0.042)	(0.996)	(0.057)	(0.148)	(0.000)
Board size (BS)	-0.023	0.001	0.061**	0.033***	0.025*	0.017	-0.021	0.172**
	(0.486)	(0.972)	(0.012)	(0.002)	(0.076)	(0.291)	(0.536)	(0.012)
Book value of equity, logarithm (logEquity)	0.254	-0.053	0.006	-0.059	-0.133	-0.129	-0.071	0.914*
	(0.214)	(0.919)	(0.974)	(0.411)	(0.064)	(0.185)	(0.693)	(0.076)
Book value of debt, logarithm (logDebt)	0.093	-0.150	-0.110*	-0.004	0.044**	0.023	-0.011	-0.063
	(0.218)	(0.077)	(0.053)	(0.831)	(0.060)	(0.439)	(0.847)	(0.616)
Book value of total assets, logarithm (logTA)	-0.917***	-0.941	-0.840***	-0.442***	-0.582***	-0.363***	-0.292	-1.896***
	(0.001)	(0.106)	(0.000)	(0.000)	(0.000)	(0.005)	(0.190)	(0.002)
Market value of equity, logarithm	0.900***	0.966***	0.856***	0.746***	0.810***	0.682***	0.890***	1.142***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)

Table 5-7 Panel data estimation (fixed effects model): Regression of performance measures on different INEDRs in 2004

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The original conjecture that the ratio should not be increased further can be revisited. Grouping companies with different INEDRs in the year the required number of INEDs on boards changed from two to three (i.e., 2004) shows that firm performance decreases for those groups of companies with INEDRs below 50% and increases again for groups with INEDRs ranging from 60% to 100%, with more significant results in the 50-60% and 70-100% ranges. Hence, the optimal INEDR deserves additional research that should be extended to China and other regions around the world.

2. Summary

This chapter considers the effects of INEDs on the performance of companies in Hong Kong, including all of the Hong Kong companies available in the chosen databases in addition to HSI constituent and GEM companies. INEDs have no effects on the performance of HSI constituent companies, and the results for all of the Hong Kong companies are ambiguous. Nevertheless, INEDs have positive effects on the performance of GEM companies, probably due to the help provided to these immature or growing businesses.

Further analysis can be conducted to determine whether an optimal INEDR exists for listed companies in Hong Kong. This research can be extended to China and other regions around the world.

Chapter 6. Chinese Companies Listed in Hong Kong

6.1 Introduction

This chapter discusses the different types of Chinese companies listed in Hong Kong, corporate governance reform and the effects of INED-related changes on firm performance.

The number of Chinese companies coming to Hong Kong for listing on the SEHK has increased since the first listing of H-share company Tsingtao Brewery Co Ltd (00168.HK) in 1993. As the market capitalisation and influence in Hong Kong of these companies has increased in the last 20 years, the effects of their performance have received more attention. Some studies have reported that government-owned companies are less effective and efficient than privately held firms. However, others have reported that government ownership enhances firm performance (Ding, Jia, Wu, & Zhang, 2014). These two contradicting results make it difficult to estimate whether increasing board independence has different effects on the performance of Chinese firms listed in Hong Kong under different stages of corporate governance reform.

6.2 Development of corporate governance reform in China

China began its economic reform in the late 1970s with a significant increase in its GDP, which ranged from an average of 7% to 12% per year in a recent 10-year period (2005-2014).[17] However, corporate governance is still considered weak according to a recent survey conducted by famous international ratings organisation Governance Metrics

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[17] According to the World Bank GDP growth (annual %) data

(http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?page=1).

International, [18] on which China ranked 34th out of 38 countries. [19] Examining the development of corporate governance in China and the Chinese company listing process in Hong Kong should shed more light on the effects of increasing the number of INEDs on the performance of these companies.

Corporate governance in China has developed over four phases since 1978 (Kang, Shi, & Brown, 2008). According to a report from the World Bank and IFC entitled 'Corporate Governance and Enterprise Reform in China', market-oriented reforms including corporatisation and ownership diversification have already created many economic entities with a relatively high degree of autonomy that are subject to significant market pressure and whose capacity to decide and structure the parameters of their mutual interactions are growing:

> *Most large and medium state-owned enterprises (SOEs) have corporatized themselves, although the process has not been completed. The Ownership diversification has taken two main forms: listing on domestic and international stock exchanges in the case of larger SOEs, and sales to insiders including management and employees, in the case of small and medium SOEs.* (Tenev, Zhang, & Brefort, 2002)

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[18] Founded in 2000, Governance Metrics International has provided in-depth coverage of the governance risk profiles of 4,200 companies, including the complete MSCI World Index and extensive coverage of emerging markets.

[19] The GMI's corporate governance country rankings are available from

http://www.gmiratings.com/Images/GMI_Country_Rankings_as_of_10_27_2010.pdf

Developments in Chinese company reform over the decades since the end of World War II and Civil War in China are summarised as follows. Before the reform, the SOE was the main form of entity from 1949 to 1983. Phase 1 (1978-1984) of the reform comprised a period of decentralisation, during which the State Council promulgated some rules to give SOE managers more freedom in their business activities and offered economic incentives to decrease the administrative control of the state. Family businesses also emerged in the 1970s in some parts of China, and their legitimacy were recognised by the state (Kang et al., 2008; OCED, 2011). The main development in phase 2 (1984-1993) was the separation of the government and enterprises. There was a change in SOEs' profit distribution (whereas all profit was once claimed by the state, SOEs were ultimately taxed and their profit shared by the state and its enterprises) and the management responsibility system was established. Under the new system, SOE owners and management could be separated, and SOEs moved from a planned economy to a market economy. The firms were then transformed into economic entities that were allowed to make their own decisions and were responsible for their own profits or losses.

In this period, the Shanghai Stock Exchange (SSE) and Shenzhen Stock Exchange (SZSE) were established and a new government body, the China Securities Regulatory Commission (CSRC), was created and made responsible for the new stock market (Kang et al., 2008; OCED, 2011).

In phase 3 (1993-2005), the core of the reform sought to establish the modern enterprise system. The first company law to provide legal support to the establishment of a modern enterprise system and lay the groundwork for the corporate governance framework in China was created in 1993. An emphasis on increasing the number of privately owned SOEs ('the corporatisation of the SOEs') began in 1994. However, China continued to

primarily maintain state ownership while allowing diverse forms of ownership to develop. Some SOEs were restructured into limited liability and joint-stock companies. The most important problem with this development was that SOEs continued to enjoy favourable treatment from the initial process of company establishment. The role of the state/government was quite confused. Although the regulator set policies to protect shareholders, the investor aimed to maximise profits in the market. As such, non-state institutional and individual investors engaged in speculative behaviour rather than investor behaviour due to the lack of governance and legal protection.

The passing of the Securities Law in 1998 gave more protection to investors, as it allowed them to take legal action against management and directors for disclosing false or misleading company information. In 2002, the Code of Corporate Governance of Listed Companies (the first code in China based on the OCED Principles) gave additional protection to small investors by prohibiting controlling shareholders from expropriating minority shareholders.

The main aim in phase 4 (2005-present) is to address the non-tradability of certain shares held by company shareholders. This reform has enabled equal rights in the trading of and earnings on shares across different categories, including state-owned, institutional and tradable shares. The CSRC revised its regulations to impose strict limitations on fund misappropriation in listed companies by controlling shareholders and related parties and also strengthened the governance of listed companies and revised company law by strengthening investor protections, especially for minority shareholders. The internal control of companies has improved due to the additional rules, and more in-depth information can be disclosed. Based on these developments, how these companies are listed on the Chinese stock market is discussed as follows.

Stock market in China

The emergence of the stock market can be traced back to the shareholding reforms that were first initiated in rural areas in China starting in the late 1970s and the earliest joint-stock township enterprises built up by farmers. In the mid-1980s, the primary stock market was formed and emerged when the shareholding reforms spread to the urban areas. According to Tang and Linowski (2011), '*A few large and medium-sized enterprises were permitted to conduct a shareholding experiment and to issue shares. Most of those issued shares were offered to employees of the enterprises and local residents, without participation of Underwriters*'.

To broaden the external financing channels and improve the operating performance of former SOEs, the central government approved the establishment of two stock exchanges in Shanghai and Shenzhen to engage in exchange trading. Both exchanges launched their respective composite indices in 1991. By the end of 1991, the SSE listed eight stocks and the SZSE listed six. Later, domestic residents and institutions were permitted to invest in renminbi-denominated ordinary shares known as A-shares. In 1991, China also undertook a pilot scheme to issue shares known as B-shares to foreign investors. B-shares are domestically listed and denominated in renminbi, but subscribed to and traded in US or Hong Kong dollars by overseas investors (Kang et al., 2008; OCED, 2011). The listing of these Chinese companies in Hong Kong is discussed briefly in the following section.

6.3 History and development of the listing of Chinese companies in Hong Kong

The listing of Chinese companies in Hong Kong dates back to 1993, when the first H-share company, Tsingtao Brewery, was listed. In that year, the Chinese government revealed the blueprint for establishing the *socialist market economy* with the setup of the Company Law

(Liao, 2009). Under the Company Law in China,[20] two types of companies can be established: the limited liability company (LLC) and joint-stock limited company (JSC).

1. Company Law requirements

The requirements for setting up a company in China based on the Company Law are as follows. According to Article 2 of the Company Law, the term 'company' can refer to an LLC or a JSC incorporated within the territory of the People's Republic of China. Furthermore, according to Article 3, an LLC or a JSC is legally defined as a person. Shareholder liability is clearly stated as follows:

> *In the case of a limited liability company, shareholders shall assume liability towards the company to the extent of their respective capital contributions, and the company shall be liable for its debts to the extent of all its assets. In the case of a joint stock limited company, its total capital shall be divided into equal shares, shareholders shall assume liability towards the company to the extent of their respective shareholdings, and the company shall be liable for its debts to the extent of all its assets.*

As a legal person, a company can operate independently and be responsible for its own profits and losses based on the law. Under the macro-adjustment and control of the state, the company can organise its production and operations independently in accordance with market demand for the purpose of raising economic benefits and labour productivity and maintaining and increasing the value of its assets (Article 5). The incorporation of LLCs or

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[20] From the website of the Company Law of the People's Republic of China (http://www.china.org.cn/english/government/207344.htm).

JSCs must meet the conditions stipulated by the present Company Law. Only the companies that meet the conditions set by this Law shall be registered as LLCs or JSCs (Article 8). Therefore, SOEs can be restructured to form companies by

> *transforming their operating mechanism, gradually produce an inventory of their assets and verify their funds, delimit their property rights, clear off their claims and debts, evaluate their assets and establish a standard internal management mechanism in accordance with the conditions and requirements set by laws, administrative rules and regulation.* (Article 7)

2. Types of Chinese companies and listings in Hong Kong

There are two major forms of Chinese companies listed in Hong Kong: H-share and red chip companies.

The main reason for listing Chinese companies in Hong Kong is to raise capital in a freely convertible currency for the purpose of business development. Listing these shares in Hong Kong is beneficial because it improves the width and depth of the Hong Kong securities market by diversifying the types of shares listed, not just limited by the original finance and property sectors. The Hong Kong stock market has been greatly enlarged in terms of market capitalisation and turnover and has attracted more international finance institutions, lawyers and institutional investors to set up offices in Hong Kong.

According to the HKEx factsheet (dated 8 August 2013) on the listing of Chinese SOEs (H-share companies) in Hong Kong, only nine SOEs were approved to list on the SEHK on 6 October 1992 and started trading shares on 15 July 1993. More than 20 years passed for the first batch of Chinese companies to be listed in Hong Kong. The second batch of 22 companies was listed in Hong Kong on 27 January 1994. However, the HKEx had no right to choose which kinds of companies could be listed in Hong Kong at that time. Together

with the SSE and SZSE, the CSRC determined which companies could be listed in the first two batches. Later, the selection criteria for listing were passed on to the market.

As discussed in the previous section, Chinese companies are allowed to be traded in three main types of shares within the Chinese legal system: A-, B- and H-shares (De Jonge, 2008). For easier classification, red chip shares are incorporated outside China and only H-share and red chip companies are listed in Hong Kong. These shares are described in brief as follows.

1. A-shares are available only to Chinese investors and are domestically listed on the mainland Chinese stock market. The three classes of A-share are state-owned, legal person and publicly owned shares. State-owned shares are held by SOEs under the control of the state/government. Legal person shares are shares held by domestic institutions such as industrial enterprises, non-bank financial institutions and research/technology institutes.

Neither of these types of shares is tradable on the stock exchanges. Publicly owned shares are social shares that are tradable on the SSE and SZSE and held by individuals and some private institutions (De Jonge, 2008).

2. B-shares are ordinary shares traded by foreign legal and natural persons in currencies other than renminbi (e.g., US or Hong Kong dollars).

3. H-shares and red chips: according to the SEHK, H-share companies are companies incorporated in mainland China and whose listings in Hong Kong are approved by the CSRC. The shares of these companies are listed in Hong Kong, subscribed for and traded in Hong Kong dollars or other currencies and referred to as H-shares. Since finding its way into the Listing Rules, the term 'H-share' has been accepted and is widely used in the market. The letter 'H' stands for Hong Kong.

Red chip companies are enterprises that are incorporated outside of the mainland and are

controlled by mainland government entities. The most important difference between a red chip company and an H-share company is that a red chip company is not mainland incorporated.

The following table compares H-share and red chip companies (Ma, 2010).

H-share companies	Red chip companies
Incorporated in China	Incorporated in Hong Kong
Mainland enterprises restructured for listing in Hong Kong	Hong Kong listed companies with at least 35% mainland Chinese interest
Creation monitored by central government	Established through local government initiative
Funds raised through IPOs	Funds raised through shell companies

Table 6-1 Comparison of H-share and red chip companies, reproduced from a study by Ma (2010)

In the preceding comparison of H-share and red chip companies, place of incorporation presents one important difference. H-share companies are incorporated in China and red chip companies are incorporated in Hong Kong. Another key difference is the percentage of interest or ownership. The majority of H-share companies are owned by the Chinese central government or authorities. In contrast, red chip companies can be listed in Hong Kong with just 35% interest and owned by local government initiatives. The funding of these two types of companies is also raised using different methods. H-share companies mainly raise funding through IPOs, and red chip companies do so mainly through the acquisition of shell

companies[21] in Hong Kong.

According to Ma (2010), there are three major ways to form red chip companies in Hong Kong. First, the Chinese companies operating in Hong Kong can list their Hong Kong assets on the SEHK. Second, the Chinese companies can move their mainland assets to Hong Kong and then list them on the SEHK. Third, the Chinese companies can use the 'backdoor listing' method and buy controlling interest in inactive listed companies in Hong Kong, which are the shell companies as stated in Table 6-1. The companies can then raise new capital by offering rights issuances.

The corporate governance models of companies with one- and two-tiered boards and Chinese companies listed in Hong Kong are reproduced from Figure 17.3 in a study by (Tricker, 2012). The models are shown in Diagrams 6.1 and 6.2, respectively, and are quite different.

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[21] A shell company is a business entity that serves as a vehicle for business transactions without having any significant assets or operations itself.

One Tiered/ Unitary Board	Two –Tiered Board

| | General assembly of shareholders |

| General meeting of shareholders | |

| | Supervisory board |

| Board of directors | |

| | Management board |

| CEO and top management | CEO and top management |

| Managers and employees | Managers and employees |
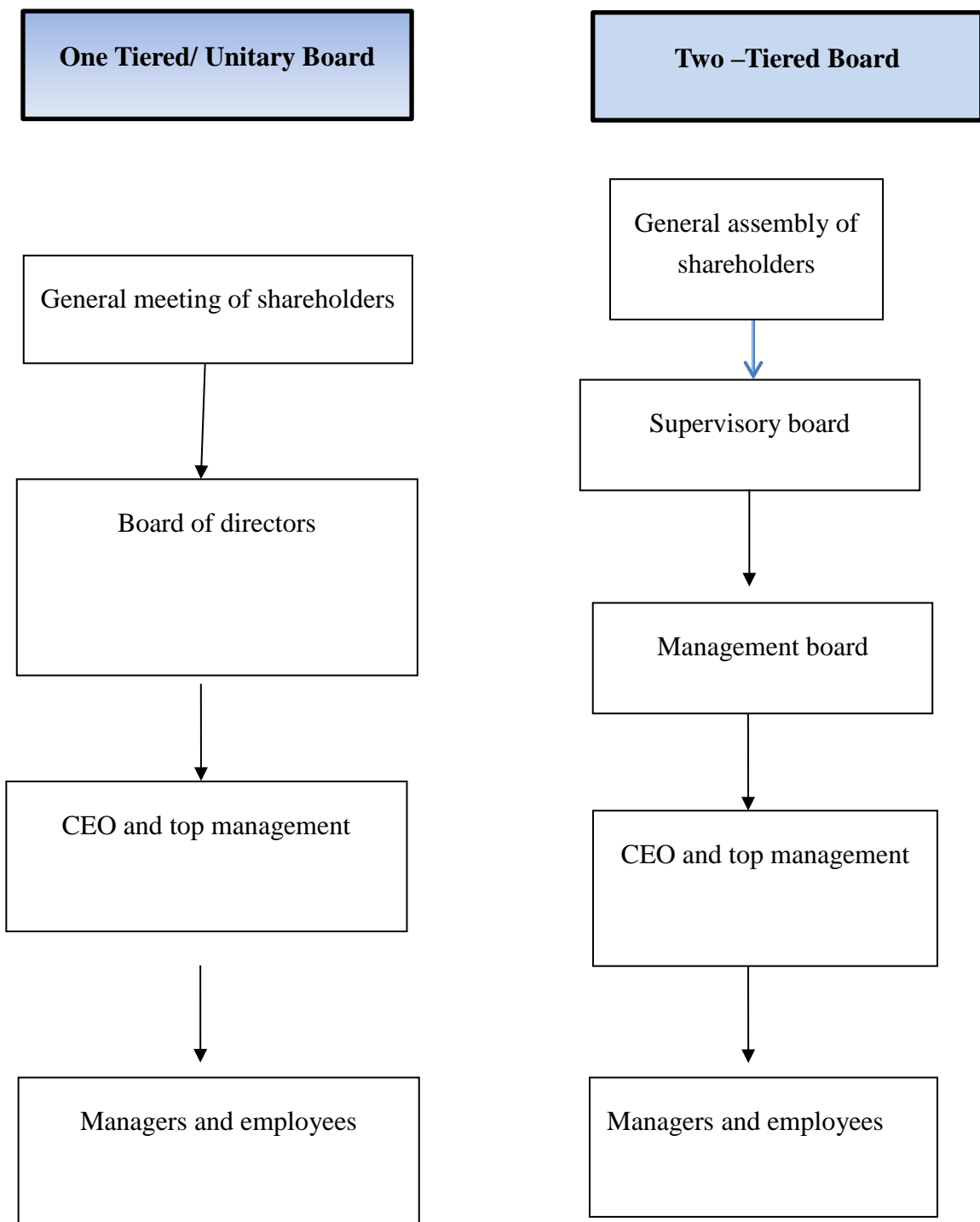
Diagram 6-1 Corporate governance model for companies with One Tiered (Unitary) and Two-Tiered boards (Tang & Linowski, 2011; Tricker, 2012)

There are two kinds of board structure models: one- and two-tiered models. They are briefly discussed as follows.

1. As Tricker (2012) explains, the US and UK rules-based models are one-tiered board models (the left side of Diagram 6.1). The US rules-based model calls for compliance with laws, emphasis on INEDs and governance under penalty of law. The UK/Commonwealth principles-based model is based on common law and extended by case law. In this model, corporate governance is based on principles and a code of good practices, not the rule of law. Self-regulation is required of companies and compliance is voluntary.

2. As company law in continental European countries is mainly rules based, these countries mainly adopt the two-tiered board model (the right side of Diagram 6.1). In this model, the supervisory board comprises half of the structure, which includes labour that can be elected to the board through trade unions, with the other half comprising capital and elected by the shareholders. Some have complained that the supervisory board is ineffective and lacks real power. Furthermore, the management board is dominated by top management, which may not accept advice from the INEDs on the board.

3. According to Tricker (2012), in China, the corporate governance model (Diagram 6.2) is derived from the preceding two models and has created a unique form of corporate governance structure, i.e., the management board of directors, which includes some outside directors and a supervisory board (SB), functioning like a hybrid of the one- and two-tiered boards. The proportions of shareholder and employee representatives on the SB are not specified. The SB safeguards the company's assets, decreases the company's risks and protects shareholder interests (Tricker, 2012). In other words, the SB performs one of four roles under the Chinese corporate environment: that of honoured guest, friendly advisor, censored watchdog or independent watchdog (Xiao, Dahya, & Lin, 2004).

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          ┌─────────────┐      ┌──────────────────────┐
          │    State    │      │ Shareholders meeting │
          └─────────────┘      └──────────────────────┘

┌─────────────────────┐              ┌──────────────────────┐
│ Board of supervisors│─────────────>│  Board of directors  │
│                     │              └──────────────────────┘
│                     │                        │
│                     │              ┌──────────────────────┐
│                     │─────────────>│   CEO and general    │
│                     │              │      managers        │
└─────────────────────┘              └──────────────────────┘
          ↑                                     │
┌─────────────────────┐              ┌──────────────────────┐
│     Employee        │              │  Managers    and     │
│  representatives    │<─────────────│  employees           │
└─────────────────────┘              └──────────────────────┘
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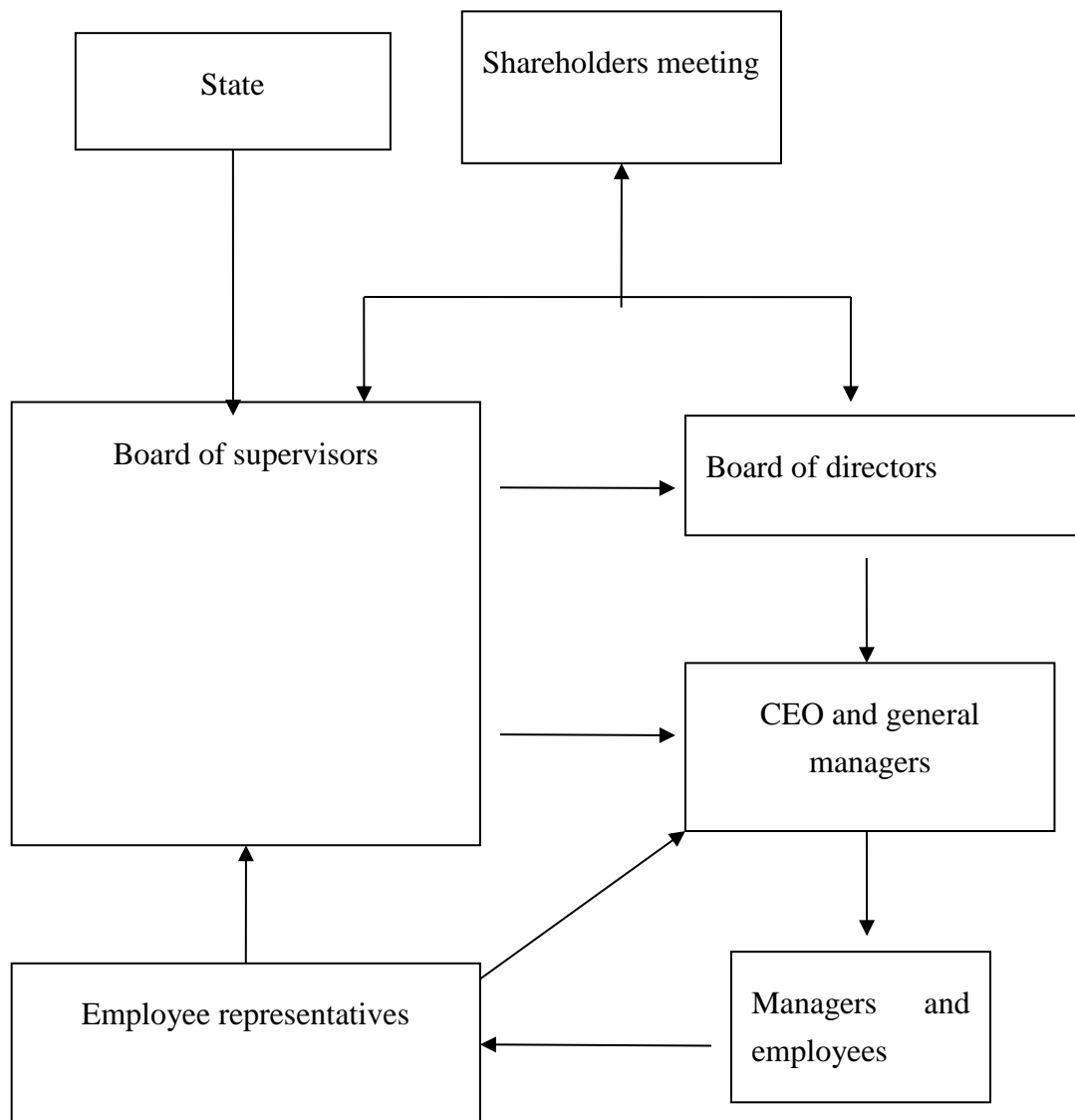
Diagram 6-2 Corporate governance model in China (Tang & Linowski, 2011; Tricker, 2012)

In the preceding model of company structures in China, which is based on the two-tiered board, the role of the supervisors is emphasised and highly affected by the internal shareholders who represent state, provincial or local governments. These major shareholders control the shareholders meeting and act as the senior management of the business. As such, in 2002, the CSRC requested that all listed companies appoint at least two INEDs, and by the end of 2003 at least one third of board members were required to be INEDs. The State-owned Assets Supervision and Administration Commission (SASAC)

holds the Chinese government's shares in all of the listed companies in China. In 2006, the SASAC began governance reforms of outside directors, better internal controls and risk management (Tricker, 2012).

3. History of the floating of H-share and red chip enterprises in Hong Kong

Based on the market statistics report issued by the HKEx in 2013 (see Tables 6.2 and 6.3), the numbers of both H-share and red chip companies listed on the SEHK in the past 10 years are presented as follows. The percentage of mainland enterprises out of the total number of listed companies of the equity market in Hong Kong significantly increased from 28% to 49%. The market capitalisations of the H-share and red chip enterprises in the main board increased significantly from 4.8% in 1993 to more than 40% in 2013. These Chinese listed companies in Hong Kong came to play a much more important role over these years and carry a high market value weight for the Hong Kong economy, and the trend is expected to continue in the coming years. The effects of corporate governance attributes and independent directors on the performance of these businesses have gained increasing attention over the last 10 years.

As at Year-end	No. of Issuers (H-shares)	No. of Issuers (Red Chips)	No. of Issuers (Mainland Private Enterprises)*	Total No. of Issuers (Mainland Enterprises)*	% of Mainland Enterprises of Total Number of Listed Companies in the Equity Market
2004	109	84	111	304	28
2005	120	89	126	335	30
2006	141	90	136	367	31
2007	146	93	200	439	35
2008	150	93	222	465	37
2009	156	97	271	524	40
2010	163	102	327	592	42
2011	168	107	365	640	43
2012	176	108	437	721	47
2013	182	122	493	797	49

Table 6-2 Number of mainland enterprises issued

*Mainland private enterprises are companies that are incorporated outside of the mainland and are controlled by mainland individuals.

Main Board

Year-end	H-shares		Red chips		All	
	Market capitalisation	% of	Market capitalisation	% of	Market capitalisation	% of
	(HK$mil)	market	(HK$mil)	market	(HK$mil)	market
1993	18,228.70	0.61%	124,129.51	4.17%	142,358.21	4.78%
1994	19,981.32	0.96%	84,279.33	4.04%	104,260.65	5.00%
1995	16,463.77	0.70%	110,701.97	4.71%	127,165.74	5.42%
1996	31,530.63	0.91%	263,330.90	7.58%	294,861.53	8.48%
1997	48,622.01	1.52%	472,970.42	14.77%	521,592.43	16.29%
1998	33,532.66	1.26%	334,966.21	12.58%	368,498.87	13.84%
1999	41,888.78	0.89%	956,942.33	20.24%	998,831.11	21.13%
2000	85,139.58	1.78%	1,203,551.95	25.10%	1,288,691.53	26.87%
2001	99,813.09	2.57%	908,854.82	23.39%	1,008,667.91	25.96%
2002	129,248.37	3.63%	806,407.41	22.66%	935,655.78	26.29%
2003	403,116.50	7.36%	1,197,770.75	21.87%	1,600,887.25	29.23%
2004	455,151.75	6.87%	1,409,357.12	21.26%	1,864,508.88	28.13%
2005	1,280,495.01	15.78%	1,709,960.75	21.08%	2,990,455.76	36.86%
2006	3,363,788.46	25.39%	2,951,581.05	22.28%	6,315,369.51	47.67%
2007	5,056,820.09	24.62%	5,514,059.49	26.85%	10,570,879.58	51.47%
2008	2,720,188.76	26.53%	2,874,906.69	28.04%	5,595,095.45	54.57%
2009	4,686,418.75	26.37%	3,862,143.29	21.73%	8,548,562.04	48.11%
2010	5,210,324.73	24.88%	4,380,687.29	20.92%	9,591,012.02	45.80%
2011	4,096,659.80	23.47%	3,999,091.91	22.91%	8,095,751.71	46.39%
2012	4,890,925.94	22.36%	4,835,257.67	22.11%	9,726,183.61	44.47%
2013	4,906,583.21	20.52%	4,815,316.86	20.14%	9,721,900.07	40.66%

GEM

Year-end	H-shares		Red chips		All	
	Market capitalisation	% of	Market capitalisation	% of	Market capitalisation	% of
	(HK$mil)	market	(HK$mil)	market	(HK$mil)	market
1999	-	-	1,255.50	17.35%	1,255.50	17.35%
2000	991.69	1.47%	806.00	1.20%	1,797.69	2.67%
2001	1,888.75	3.10%	1,010.60	1.66%	2,899.35	4.76%
2002	2,393.01	4.58%	830.80	1.59%	3,223.81	6.17%
2003	5,063.25	7.21%	-	-	5,063.25	7.21%
2004	6,376.35	9.56%	727.56	1.09%	7,103.92	10.65%
2005	6,420.65	9.64%	836.23	1.26%	7,256.88	10.90%
2006	14,952.03	16.82%	790.31	0.89%	15,742.35	17.71%
2007	22,695.38	14.09%	10,378.89	6.44%	33,074.28	20.53%
2008	11,550.65	25.57%	988.62	2.19%	12,539.27	27.76%
2009	27,059.82	25.76%	6,551.60	6.24%	33,611.41	32.00%
2010	20,154.24	14.97%	5,285.11	3.92%	25,439.35	18.89%
2011	4,611.67	5.45%	3,432.64	4.06%	8,044.31	9.51%
2012	5,074.68	6.47%	3,800.19	4.85%	8,874.87	11.32%
2013	5,953.03	4.44%	13,083.47	9.76%	19,036.50	14.21%

Table 6-3 Market capitalisation of China-related stocks (main board and GEM)

6.4 Analysis results

The results of the H-share and red chip companies are discussed as follows.

1. H-share companies

Definition of H-shares

As discussed previously, according to the HKEx definition, H-share companies are enterprises that are incorporated in the mainland and are controlled by either mainland government entities or individuals. In terms of descriptive statistics, the average time of listing is 8.14 years, the average number of INEDs is 3.14 and the INEDR is 33% during the period.

Descriptive statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
StockNo	819	1972.095	2742.813	38	8236
Year	819	2006	3.743944	2000	2012
FA	693	8.141414	4.082626	1	18
EPS	709	0.2345839	0.2953859	0	1.95
PE	651	39.78863	246.3739	1.4	6085
P	727	3.746396	5.549329	0.063	58.062
STRN	664	0.2379037	-0.6034636	.8501946 4	0.854766
T	103	1.200842	0.5499952	0.4961	4.0911
TC	93	0.0702866	-0.3607553	.6580502	1.096303
INEDR	706	0.3296114	0.1496886	0	1
INEDN	706	3.143059	1.720362	0	9
BS	756	8.615079	4.575343	0	22
ROE	638	0.1613943	0.2864869	.0003474	5.141729
ROA	744	0.0490444	-0.1130869	1.266073	1.460658
DE	659	1.259889	10.4162	.0001506	263.5343
Mkt	721	4.05E+07	1.80E+08	31344	2.380E+08
TA	744	4.86E+07	1.64E+08	43512	1.920E+08
NI	744	4379221	-2.06E+07	1.53e+07	1.970E+07
Debt	744	1.29E+07	3.52E+07	0	1.80E+07
Equity	744	2.34E+07	-9.02E+07	1.31e+07	1.00E+00
RIp	115	0.4802209	1.090816	-0.779	4.0316
TA	744	4.86E+07	1.64E+08	43512	1.920E+08
NI	744	4379221	-2.06E+07	1.53e+07	1.970E+07
Debt	744	1.29E+07	3.52E+07	0	3.180E+07
Equity	744	2.34E+07	-9.02E+07	1.31e+07	1.00E+00
RI	115	48.02209	109.0816	-77.9	403.16
RIp	115	0.4802209	1.090816	-0.779	4.0316

Table 6-4 Descriptive statistics of H-share companies in Hong Kong

The empirical results associated with the effects of INEDs on the performance of H-share companies are given as follows.

	Dependent variables				
	Stock return with reinvestment of dividend (RIp)	Stock return^^ (STRN)	Change in Tobin's q	Return on equity (ROE)	Return on assets (ROA)
Ratio of independent directors (INEDR)	-1.972*	-0.549**	-0.774**	-0.386	-0.020
	(0.098)	(0.021)	(0.095)	(0.323)	(0.749)
Firm age (FA)	-0.045	-0.022*	-0.009	0.050**	0.003
	(0.428)	(0.090)	(0.695)	(0.013)	(0.306)
Leverage ratio (DE)	0.233	-0.008***	0.000	0.002**	0.000
	(0.337)	(0.005)	(0.667)	(0.033)	(0.149)
Board size (BS)	0.020	-0.003	0.015	-0.013	0.004*
	(0.585)	(0.785)	(0.267)	(0.264)	(0.056)
Book value of equity, logarithm (logEquity)	-0.084	-0.422***	0.072	-0.264	0.006
	(0.851)	(0.000)	(0.676)	(0.076)	(0.798)
Book value of debt, logarithm (logDebt)	0.241	-0.028	0.078	-0.051	-0.019**
	(0.110)	(0.351)	(0.190)	(0.296)	(0.021)
Book value of total assets, logarithm	-1.505***	-0.175	-0.503***	-0.195	-0.056**
	(0.002)	(0.134)	(0.009)	(0.221)	(0.032)
Market value of equity, logarithm (logMkt)	1.194***	0.666***	0.309***	0.263***	0.037***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)

Table 6-5 Fixed effects model results for H-share companies in Hong Kong

(***, ** and * represent significance at the 1%, 5% and 10% levels, respectively)

^^There are 819 firm-year observations from 63 H-share companies available since 2000.

As not enough RI data (representative of stock returns with dividend reinvestment) were obtained from the database, simple stock returns (the variable STRN–the percentage of average price change) is used in the panel regression model instead.

Discussion of the empirical results

The effects of INEDs on stock return performance for the H-share companies are **negative** in general (-0.55% at the 5% significance level using the fixed effects model and with control variables added).

The results remain significant when Tobin's q is used as the performance variable, but not when ROE or ROA is used.

In conclusion, government control over a board has significant effects on firm performance. Firm performance decreases rather than increases when INEDs are added to the board. The effectiveness of INEDs on the boards of H-share companies is subject to debate. Furthermore, if the information/agency costs of the board are high, then the INEDs may not perform their roles as monitors or resource providers. As outsiders to the business, these INEDs need a substantial amount of firm-specific information to effectively perform their advising and monitoring duties. In these politically controlled SOEs, there are significant costs involved in accessing this information. Hence, the INEDs may not function effectively on boards and may even decrease firm performance when added (Armstrong, Core, & Guay, 2013). Another problem relates to how 'independent' these INEDs are. Their effectiveness decreases when they are appointed by the company or have personal relationships with management. Furthermore, if management believes that an INED could monitor its actions or decisions more extensively, then management or other board members may be unwilling to supply the necessary information related to their actions.

2. Red chip companies

According to the HKEx definition, red chip companies are incorporated outside of the mainland and are controlled by mainland government entities. Red chip companies are listed on the SEHK. Red chip stocks are expected to meet the filing and reporting requirements of the exchange.

In terms of descriptive statistics, the average time of listing is 12.15 years (more than that of H-share companies), the average number of INEDs is 2.86 (lower than H-share companies) and the INEDR is 33% (same as H-share companies) during the period.

Descriptive statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
StockNo	1,144.00	793.40	1,201.78	31.00	8,128.00
Year	1,144.00	2,006.00	3.74	2,000.00	2,012.00
FA	1,030.00	12.15	6.10	1.00	38.00
EPS	1,045.00	0.29	0.61	-	6.33
PE	854.00	36.88	215.74	-	5,936.70
P	1,048.00	4.40	8.97	0.09	101.38
STRN	1,037.00	0.20	0.78	(0.89)	7.98
T	1,036.00	1.91	9.61	0.20	292.05
INEDR	1,022.00	0.33	0.15	-	1.00
INEDN	1,022.00	2.86	1.19	-	7.00
BS	1,056.00	9.05	4.39	-	22.00
ROE	783.00	0.19	0.54	0.00	9.95
ROA	1,046.00	(0.01)	0.56	(11.38)	3.84
DE	1,045.00	43.48	324.30	(9,049.79)	3,658.22
Mkt	1,036.00	27,600,000.00	149,000,000.00	19,637.00	2,760,000,000.00
TA	1,046.00	33,000,000.00	137,000,000.00	1,605.00	1,740,000,000.00
NI	1,048.00	2,376,687.00	14,000,000.00	(10,800,000.00)	196,000,000.00
Debt	1,045.00	5,404,105.00	21,000,000.00	-	388,000,000.00
Equity	1,047.00	12,500,000.00	51,100,000.00	(663,853.00)	801,000,000.00
RIp	1,032.00	0.32	1.17	(0.96)	16.28

Table 6-6 Descriptive statistics of red chip companies in Hong Kong

There are 1,144 firm-year observations from 88 red chip companies available since 2000.

Empirical results

	Dependent variables			
	Stock return with reinvestment of dividend (RI)	Change in Tobin's q	Return on equity (ROE)	Return on assets (ROA)
Ratio of independent directors (INEDR)	-0.073	0.006	0.053	0.017
	(0.801)	(0.970)	(0.220)	(0.616)
Firm age (FA)	-0.017	-0.008	-0.001	0.000
	(0.295)	(0.365)	(0.628)	(0.876)
Leverage ratio (DE)	-0.001***	0.000**	0.000***	0.000***
	(0.001)	(0.036)	(0.000)	(0.003)
Board size (BS)	0.000	0.005	0.002	0.000
	(0.998)	(0.502)	(0.322)	(0.894)
Book value of equity, logarithm (logEquity)	-0.583***	-0.103	-0.179***	0.079***
	(0.000)	(0.109)	(0.000)	(0.000)
Book value of debt, logarithm (logDebt)	-0.091***	-0.016	-0.021***	-0.005
	(0.016)	(0.407)	(0.001)	(0.296)
Book value of total assets, logarithm	-0.060	-0.284***	0.138***	-0.046***
	(0.657)	(0.000)	(0.000)	(0.004)
Market value of equity, logarithm (logMkt)	0.886***	0.402***	0.049***	0.015***
	(0.000)	(0.000)	(0.000)	(0.014)

Table 6-7 Fixed effects model results for red chip companies in Hong Kong

(***, ** and * represent significance at the 1%, 5% and 10% levels, respectively)

All of the effects of INEDs on stock return performance, Tobin's q, ROE and ROA are insignificant (but positive) in general using the fixed effects panel regression. Compared with H-share companies, the effects of INEDs on the performance of red chip companies are insignificant.

They are also insignificant when the same variables are used in random and mixed effects panel regressions.

One possible reason for this is that the influence of China government/officials on these red chip companies is not as strong/active as it is on the H-share companies listed in Hong Kong. The degree of their control or political connection is not so strong that it has no negative effects on performance when compared with the H-share companies. In conclusion, INEDs have some positive but insignificant effects on the red chip companies, which means that their boards are more open to INEDs and more willing to provide information to them.

6.5 Summary

This chapter presents the nature of the Chinese companies (both H-share and red chip companies) listed in Hong Kong, the history of the listing of these firms in Hong Kong and the effects of INEDs on their performance. The results suggest that INEDs have negative effects on the performance of H-share companies in general but insignificant effects in general on the performance of red chip companies. This is probably due to the different nature and political connections of the controlling shareholders and the degree of effectiveness of the INEDs in these firms.

Chapter 7. Family- and Non-family-controlled Businesses

7.1 Introduction

This chapter considers the effects of INEDs on family- and non-family-controlled businesses.

It is well known and reported that family-managed businesses dominate different industrial sectors around the world and that one third of the companies listed in the Standard and Poor 500 Index in the US are managed by families, who are also the majority shareholders of the companies (W. Liu, Yang, & Zhang, 2012). Many companies in Hong Kong are controlled and managed by families (La Porta, Lopez-De-Silanes, & Shleifer, 1999). Most of the top 100 listed companies are family and group based, and 25 of the 100 highest market value companies are controlled by the 10 biggest families in Hong Kong (Lei & Song, 2012). As shown in **Diagram 4-6**, 539 of the 726 non-Chinese listed companies in the database considered in this study can be classified as family firms and provide relevant observations, accounting for 74.3% of the total number of non-Chinese firms.

Given the significant influence of controlling families on the management of firms and conglomerates around the world, it is worthwhile to investigate whether major business shareholders try to extract personal benefits at the expense of minority shareholders. It is also worthwhile to study whether the increase in the number of INEDs affects the behaviour of major shareholders and the performance of these family-managed firms.

1. Nature of family-managed firms and their relationship with agency theory and the resource –based view (RBV)

There are two streams of research in the family business literature, including research focusing on the performance implications between family- and non-family-controlled firms and how specific family characteristics affect firm performance. Studies have adopted

agency theory and the RBV (discussed along with resource dependence theory in Chapter 2) as the major explanations of the family-performance relationship (W. Liu et al., 2012). The RBV states that family involvement helps to develop resources and capabilities that contribute to firm performance.

Some studies have shown the negative effects of the appointment of family members to boards. For example, according to one study conducted in Canada, analysis of stock prices indicates that the appointment of family members results in a significant loss to shareholders of −3.20% over the days after the announcement and no negative reaction to the appointment of non-family insiders and outsiders (Smith & Amoako-Adu, 1999).

As discussed in Chapter 2, according to agency theory, there are two problems affecting the principal-agent relationship in a family-managed business: adverse selection and moral hazard. Due to the problem of asymmetric information and different interests of the principal and agent, the agent generally has a greater understanding of the available information than the principal. Adverse selection occurs when a principal incorrectly enters into a contract with an inappropriate agent, and moral hazard occurs when an agent engages in activities that benefit that agent and may work against the principal (O'Boyle Jr, Pollack, & Rutherford, 2012). If family members are acting as the agents (e.g., as senior management or the directors), then their interests should normally align with the interests of the principal (the major shareholder). Hence, the moral hazard problem is largely reduced and the agency problem should be minimised accordingly (Fama & Jensen, 1983; O'Boyle Jr et al., 2012).

According to Jensen and Meckling's (1976) model, there are three reasons why family-managed firms (or at least those that are privately held) should have lower agency costs (Schulze, Lubatkin, Dino, & Buchholtz, 2001). These reasons are listed as follows.

1. The owner/management decreases the agency cost due to the natural alignment of interests between the owner and manager.

2. Private ownership should decrease agency costs because property rights are largely restricted to 'internal decision agents' whose personal involvement ensures that managers cannot expropriate shareholder wealth through the consumption of perquisites and the misallocation of resources.

3. Family management further decreases the agency cost because family members have advantages in monitoring and disciplining related decision agents, as described by Fama and Jensen (1983, cited in Schulze et al., 2001).

2. Definitions of family- and non-family-controlled firms

As Miller et al. (2007) note, there is no consensus on the definition of a family-controlled firm. The typical family business has been characterised as an organisation controlled and usually managed by multiple family members and across multiple generations (Miller et al., 2007). Table 7.1 presents the different definitions of family business according to Miller et al. (2007). These definitions are based on percentage of equity ownership, voting rights and the appointment of family members to boards as directors and/or CEOs and/or officers.

#	Author(s)	Study time line	Data source	Data location	Family firm definition(s) used
1	Allen and Panian (1982)	1971–1980	250 largest firms in terms of sales for 1974 or 1975	U.S.	Family firm whenever the members of a descendent group and their affiliates owned or controlled at least 5 percent of **the voting stock** in a corporation and were represented on board of directors. Other definitions used: Direct family control when the CEO is a member of the

#	Author(s)	Study time line	Data source	Data location	Family firm definition(s) used
					controlling family.
2	Anderson and Reeb (2003)	1992–1999	1992 S&P 500	U.S.	Family firm if there exist fractional equity ownership of the founding family and / or the presence of family members **serving on the board** of directors. Other definitions used: Ratio of board seats held by family members to board seats held by independent directors / CEO founder indicates a founding family firm when the CEO is the founder of the firm / CEO descendent indicates a founding family firm when the CEO is a descendent of the founder during the past decade.
3	Anderson and Reeb (2004)	1992–1999	1992 S&P 500	U.S.	Family firm if there exists fractional equity ownership of the founding family and/or the presence of family members serving on the board of directors. Other definitions used: Ratio of board seats held by family members to board seats held by independent directors/If family board control exceeds independent director control.
4	Anderson, Mansi, and Reeb (2003)	1993–1998	Firms in both the Lehman Brothers Bond Database and the S&P 500	U.S.	Family firm if there exists fractional equity ownership of the founder and his/her immediate family. Other definitions used: Fractional equity ownership of the founder and his/her immediate family & board of directors membership/Fractional equity ownership of the founder and his/her immediate family and size of the family's ownership stake relative to other block holders/Fractional equity ownership of the founder and his/her immediate family and

#	Author(s)	Study time line	Data source	Data location	Family firm definition(s) used
					family equity holdings as a fraction of outstanding shares.
5	Ang, Cole, and Lin (2000)	1992	Federal Reserve Board's National Survey of Small Business Finances	U.S.	Family firm when a single family controls more than 50% of the firm's shares.
6	Barontini and Caprio (2005)	1999	Large publicly traded firms greater than 300 million euros in assets. 675 firms.	Continental Europe (11 countries)	Family firm if the largest shareholder owns at least 10% of ownership rights and either family or largest shareholder controls more than 51% of direct voting rights or controls more than the double of the direct voting rights of the second largest shareholder. Other definitions used: Firm run by family COO/Firm run by non family COO but one family member is on board/Family firm when founder or descendent of founder runs firm.
7	Barth et al. (2005)	1996	Survey of firms associated with the Confederation of Norwegian Business and Industry	Norway	Family firm if at least 33% of the shares of the firm are owned by one person or one family.
8	Bennedsen et al. (in press)	1994–2002	Limited liability public and private firms which underwent a CEO succession	Denmark	Family firm whenever an incoming CEO is related by blood or marriage to the outgoing CEO.
9	Claessens et al. (2000)	1996	WorldScope	9 East Asian Countries	Family groups are those that control more than 5% of the company's votes. Family group is identified through published family trees in each country and may consist of one family or a group of families.
10	Claessens et al.	1996	WorldScope	8 East	Family firm when there is the presence of a

#	Author(s)	Study time line	Data source	Data location	Family firm definition(s) used
	(2002)			Asian Countries	group of people related by blood or marriage with large ownership stakes.
11	Cronqvist and Nilsson (2003)	1991–1997	Stockholm Stock Exchange	Sweden	Founder families may include only a single individual or a closely knit group of individuals who do not belong to the same family. Other definitions used: Founder family ownership is ownership by the founder or descendants of the founder and families/individuals affiliated with the founder.
12	Denis and Denis (1994)	1985	Value Line Investment Survey	U.S.	Family firm if 2 or more family members are present as officers/directors or if founders are officers.
13	Faccio and Lang (2002)	1996–1999	WorldScope plus various country specific reference data bases	13 Western European countries	Family firm if a family or an individual or unlisted firm on any stock exchange is considered as the ultimate owner (greater than 20% of either cash flow or control rights).
14	Fahlenbrach (2006)	1992–2002	2327 publicly traded firms listed in IRCC for all years, firms drawn from S&P 500, Fortune, Forbes, Business Week	U.S.	Family firm if the CEO is the founder or co-founder.
15	Gomez-Mejia et al. (in press)	1944–1998	Spanish government registry	Spain	Family firm if the company is owned and operated by the founding family. Other definitions used: Owned and operated by non-founding extended family/Owned and operated by non-founding extended family members but managed by hired professionals.
16	Gomez-Mejia et al. (2003)	1995–1998	Random sample culled from Compustat	U.S.	Family controlled firm under two conditions: two or more directors had a

#	Author(s)	Study time line	Data source	Data location	Family firm definition(s) used
					family relationship, and family members owned or controlled at least 5% of the voting stock. Family relationship included father, mother, sister, brother, son, daughter, spouse, in-laws, aunt, uncle, niece, nephew, cousin. Other definitions used: Family controlled and CEO is family member/Percentage of family equity ownership/Family controlled and family member(s) are on the compensation committee.
17	Gomez-Mejia et al. (2001)	1966–1993	Registry of Newspapers, Media Guide of Spain, Oficina de Justificacion de la Difusion—All daily newspapers	Spain	Family firm if in this newspaper sample there were family ties between the newspaper's CEO and editor.
18	Holderness and Sheehan (1988)	1980–1984	114 randomly chosen publicly traded firms — data source Spectrum 5	U.S.	Family firm if an individual majority shareholder or entity owns at least 50.1% of the stock: may include trusts and foundations.
19	La Porta et al. (1999)	1995–1997	World scope-27 countries represented	Worldwide	Family firm if a person is the controlling shareholder (ultimate owner) whose direct and indirect voting rights exceed 20%.
20	Luo and Chung (2005)	1973–1996	Directory business groups in Taiwan	Taiwan	Firm created by entrepreneurs. Other definitions used: Firm's key leader has inner circle members who are immediate family members/Firm's key leader has inner circle members with prior social relationships — distant relatives, in-laws, friends, classmates, colleagues, business partners.
21	Maury (2006)	1996–2003	Faccio and Lang, 2002 data plus WorldScope	13 Western European	Family firm if the largest controlling shareholder who holds at least 10% of the

#	Author(s)	Study time line	Data source	Data location	Family firm definition(s) used
			2003	countries	voting rights is a family, an individual, or an unlisted firm (unlisted firms are often closely held and therefore considered under family control). Other definitions used: The controlling shareholder is from an unlisted firm/The largest controlling shareholder is an identified family or individual/The controlling shareholder is a family or an individual holding the title of CEO, Honorary Chairman, Chairman, or Vice Chairman.
22	McConaughy et al. (1998)	1987	*Business Week* CEO 1000	U.S.	Family founder controlled firm — A public corporation whose CEO is either the founder or a member of the founder's family.
23	Morck et al. (1988)	1980	*Fortune* 500	U.S.	Family firm if a member of the founding family is among the top two officers.
24	Perez-Gonzalez (2006)	1980–2001	*Compustat* 1994	U.S.	Sample firms met the following requirements: (1) founded prior to 1971; (2) exhibited at least one of the following (a) two or more individuals related by blood were directors, officers, or shareholders (b) an individual had at least 5% ownership (c) a founder was an executive or director, and (3) a CEO change occurred during the time window. Further a family succession was coded within this sample of firms when the new CEO was related by blood or marriage to : (1) the departing CEO, (2) the founder, or (3) a large shareholder.
25	Schulze et al. (2001)	1995	Survey of American family businesses	U.S.	Family firm if privately held, greater than \$5 m annual sales, and listed by Arthur

#	Author(s)	Study time line	Data source	Data location	Family firm definition(s) used
			conducted by the Arthur Anderson Center for Family Business.		Anderson as a family business.
26	Schulze et al. (2003)	1995	Survey of American family businesses conducted by the Arthur Anderson Center for Family Business.	U.S.	Family firm if privately held, greater than $5 m annual sales and listed by Arthur Anderson as a family business.
27	Smith and Amoako-Adu (1999)	1962–1996	Toronto Stock Exchange companies	Canada	Family firm if a person or a group related by family ties holds the largest voting block and at least 10% of the total votes.
28	Villalonga and Amit (2006b)	1994–2000	*Fortune* 500	U.S.	Family firm if the founder or a member of the family is officer, director or owns > 5% of the firm's equity. Other definitions used: 1 or more family members are officers directors or block holders/At least 1 family officer and 1 family director/Family is largest vote holder/Family is largest shareholder/1 or more family members from 2nd generation or later are officers, directors, or block holders / Family is largest vote holder and has at least one family officer and 1 family director/Family is largest shareholder and has at least 20% of the votes/1 or more family members are directors or block holders but there are no family officers/Family is largest vote holder, has at least 20% of votes, one family officer and 1 family director and is in 2nd or later generation.

Table 7-1 Family firms as defined in the literature worldwide, reproduced from a study (Miller et al., 2007)

With so many different definitions from different regions and sources, a base definition must be chosen. This study uses the fractional equity ownership of a family as a measure of its ownership control concentration. Its working definition of family-controlled firms follows the ownership percentage threshold of **20%** (R. C. Anderson & Reeb, 2003; Jaggi et al., 2009; La Porta et al., 1999).

7.2 Effects of family ownership on firm performance

Another US study conducted by (R. C. Anderson & Reeb, 2003) shows that family-controlled firms can perform better than non-family-controlled firms. The authors show that the relationship between family holdings and company performance is nonlinear and that firm performance improves when family members rather than outsiders serve as the CEOs. This suggests that family ownership is an effective organisational structure.

1. Effectiveness of INEDs in family-controlled companies

To evaluate the effectiveness and independence of INEDs, one must answer a simple question: how independent are they? Jaggi, Leung and Gul (2009) observe the following:

> *The corporate governance structure of Hong Kong firms is characterized by a personal networking system or personal relationships between related parties (guanxi), which revolves around informal relationships rather than formal written contracts. As a result, family ownership concentration in firms and the appointment of family members to corporate boards are common. The independence of boards by appointing more INEDs is a positive step toward improving earnings quality but at the same time, the monitoring effectiveness of independent directors is moderated in family-controlled firms.*

The authors also mention that due to family ownership concentration, market control mechanisms are not strong in Hong Kong, and hostile takeovers and mergers and

acquisitions are almost non-existent:

> *There are also questions on the quality of appointment of independent directors and the question of the independence. The monitoring effectiveness of INED's is reduced in family-controlled firms, proxied by family ownership concentration or the presence of family members as board directors. These results suggest that an increase in the proportion of outside directors to strengthen board monitoring is unlikely to be effective in family-controlled firms.* (Jaggi, Leung, & Gul, 2009)

Jaggi, Leung and Gul (2009) examine whether family control has a moderating effect on the monitoring effectiveness of independent boards. They indicate that there are two opposing theoretical viewpoints related to the effect of family control on earnings management. Families are expected to monitor managerial behaviour and actions effectively and hence decrease the possibility of a company's management managing its earnings. The authors also indicate that in accordance with stewardship theory, earnings are less likely to be manipulated because controlling families align their interests more closely with the firm's wealth. Furthermore, less pressure is placed on management to meet short-term earnings expectations because controlling families focus more on the long term. As discussed previously, a Type II agency problem arises between majority and minority shareholders. Determining how to monitor and align shareholder interests cannot be ignored when monitoring is discussed.

According to Jaggi, Leung and Gul (2009), it is difficult to determine the existence of effective controls due to the complex ownership structures of most firms:

> *Because of interlocking relationships among firms and insufficient disclosure in annual reports about director ownership via corporate pyramids, effective*

ultimate ownership and the ratio of family voting control over ultimate ownership are not determinable. Therefore, we use the appointment of controlling family members on corporate boards as an additional proxy for family control.

Hence, it is difficult to find a common definition of the family-controlled business. This study is based on the situation in Hong Kong.

2. Two main agency problems associated with family-controlled businesses

According to Leung et al. (2012), there are two different agency relationships.

i. Type 1 agency relationship: the separation of ownership and control.

ii. Type 2 agency relationship: the differences in incentives between family and external investors.

According to the agency theorists, these two agency relationships create two types of conflicts/agency problems: principal-agent (Type I) and principal-principal (Type II) problems (W. Liu et al., 2012). The Type I problem should be much lower in family firms than in non-family firms and vice versa for the Type II problem, as large family shareholders may expropriate benefits from minority shareholders. According to a similar argument, family-controlled businesses usually experience fewer Type I agency conflicts. As family investors act as either entrepreneurs or managers, they monitor their managerial actions directly and hence decrease the separation between ownership and control. This direct monitoring also decreases the moral hazard and manipulation of financial reporting by management (Leung, Srinidhi, & Lobo, 2012).

However, family-controlled businesses would experience fewer Type II agency problems when they seek outside equity capital rather than using debt financed as a major source of funds. As insider family shareholders and managers tend to protect their private control benefits, controlling insiders may proactively discourage openness, make a firm less

transparent and prefer private debt over equity funding. According to this logic, only those family-controlled businesses that seek equity financing are more transparent to assure potential external investors of the safety of their invested capital. In conclusion, '*family firms that seek outside equity capital are likely to provide more firm-specific information to investors and highly leveraged family firms are likely to be less transparent*' (Leung et al., 2012).

7.3 Effects of INEDs on the performance of family- and non-family-controlled business

According to Diagram 3-1, the samples (firm-year observations) of family- and non-family-controlled firms are not considered random but rather contain all of the available data from the populations. Hence, the fixed effects panel regression should be used as before. A random effects regression is also performed to ensure the correct procedure is used, and the Hausman test is conducted to determine any significant differences in the coefficients. If so, then the fixed effects model should be used. If not, then the random effects model should be used provisionally.

Excluding H-share and red chip companies (The Chinese compaines), the remaining companies can be classified as family-controlled firms or, in the case of those firms with INEDs comprising less than 20% of their boards, non-family-controlled firms as discussed previously.

In the years under consideration (2000-2011), the mean number of INEDs increases from 1.29 to 3.58 and the mean INEDR increases from 26.5% to 40.3%, indicating that most of the firms fulfilled the new requirement of changing the numbers of INEDs on their boards from two to three in 2004 and met the new requirement of boards comprising one third INEDs in 2012.

Empirical results for family-controlled businesses

	Dependent variables			
	Stock return with reinvestment of dividend	Change in Tobin's q	Return on equity (ROE)	Return on assets (ROA)
Ratio of independent directors (INEDR)	-0.175	-0.194***	0.031	0.081***
	(0.211)	(0.007)	(0.166)	(0.000)
Firm age (FA)	-0.027***	-0.005	-0.001	-0.006***
	(0.000)	(0.130)	(0.158)	(0.000)
Leverage ratio (DE)	0.000	0.000**	0.000***	0.000
	(0.757)	(0.040)	(0.010)	(0.192)
Board size (BS)	0.033	-0.004	0.001	0.002
	(0.000)	(0.317)	(0.630)	(0.155)
Book value of equity, logarithm (logEquity)	-0.077*	-0.122***	-0.114***	0.081***
	(0.070)	(0.000)	(0.000)	(0.000)
Book value of debt, logarithm (logDebt)	0.020	0.013*	-0.004**	-0.009***
	(0.152)	(0.066)	(0.044)	(0.000)
Book value of total assets, logarithm (logTA)	-0.453***	-0.210***	0.069***	-0.038***
	(0.000)	(0.000)	(0.000)	(0.000)
Market value of equity, logarithm (logMkt)	0.710***	0.319***	0.056***	0.025***
	(0.000)	(0.000)	(0.000)	(0.000)

Table 7-2 Fixed effects model results for family-controlled businesses in Hong Kong

(***, ** and * represent significance at the 1%, 5% and 10% levels, respectively)

Results for non-family-controlled businesses

	Dependent variables			
	Stock return with reinvestment of dividend (RI)	Change in Tobin's q	Return on equity (ROE)	Return on assets (ROA)
Ratio of independent directors (INEDR)	0.870***	0.105	-0.064	0.163***
	(0.001)	(0.410)	(0.166)	(0.006)
Firm age (FA)	-0.032**	0.013*	0.000	-0.010***
	(0.020)	(0.063)	(0.917)	(0.001)
Leverage ratio (DE)	0.000	0.000	0.000	0.000
	(0.223)	(0.198)	(0.104)	(0.874)
Board size (BS)	0.009	0.002	0.001	-0.004
	(0.453)	(0.716)	(0.528)	(0.194)
Book value of equity, logarithm (logEquity)	-0.175*	-0.157***	-0.134***	0.017
	(0.061)	(0.001)	(0.000)	(0.419)
Book value of debt, logarithm (logDebt)	-0.019	0.008	-0.005	-0.012**
	(0.454)	(0.509)	(0.196)	(0.029)
Book value of total assets, logarithm (logTA)	-0.313**	-0.281***	0.068**	0.069***
	(0.006)	(0.000)	(0.023)	(0.008)
Market value of equity, logarithm (logMkt)	0.749***	0.363***	0.059***	0.008
	(0.000)	(0.000)	(0.000)	(0.440)

Table 7-3 Fixed effects model results for non-family-controlled businesses in Hong Kong

(***, ** and * represent significance at the 1%, 5% and 10% levels, respectively)

Although the effects of the increases in the number and ratio of INEDs on the performance

of family-controlled firms can be classified as inconsistent in general (a mix of both positive and negative effects and with two other insignificant results), the results for the non-family-controlled firms are positive in general (and with a higher magnitude). The results indicate that when the fixed effects panel regression is used, there is a 0.081% increase in ROA but a 0.19% decrease in Tobin's q (both significant at the 1% level) when INEDR increases by 1% for family firms. However, the magnitudes (both positive) increase to 0.87% and 0.16% (stock return and ROA, respectively) for non-family-controlled firms in the fixed effects panel regression (both significant at the 1% levels). These results indicate that increasing the ratio of INEDs has positive effects on the performance of non-family-controlled firms but not on the performance of family-controlled firms.

To illustrate all of the panel data regressions outside of the fixed effects method, the random and mixed effects model results are included for the family-controlled businesses in Appendix A4 for comparison/reference.

7.4 Conclusion

This chapter considers the nature of the family business, the types of agency cost (Types I and II) involved and the effects of INEDs on the performance of family- and non-family-controlled firms. The results suggest that INEDs have positives effects on the performance of non-family-controlled firms but inconsistent effects on family-controlled firms.

Family firms are subject to the control of family members serving on their boards of directors. Hence, the effects of the appointment of INEDs to these boards in a monitoring or resource provider role are probably reduced by almost 50.3% (assuming INEDR is regressed on ROA) when compared with the results of non-family-controlled firms. These

results are quite contrary to the estimation made in the initial conjecture/hypothesis that INEDs help to improve the performance of family-controlled businesses. Indeed, the magnitude of the effects of INEDs is even lower than in the cases of non-family-controlled businesses.

The effects of information costs as discussed in Chapter 3 may provide an explanation for these results. As reported by Duchin et al. (2010), the effectiveness of outside directors depends on the costs of acquiring information about a family business controlled by the major shareholder and his or her family, one can imagine that inside information about a business is not easily made available to an INED.

Similar to the information costs argument, it is not surprising to interpret that the information costs are high in family-controlled firms in Hong Kong. The data from the IBEX database (provided by the analysts) could not even be easily extracted to construct the information cost index, as only about 20% of family-controlled firms reported these data. Duchin et al. (2010) observe the following:

> *When the cost of acquiring information is low, performance increases when outsiders are added to the board, and when the cost of information is high, performance worsens when outsiders are added to the board. The estimates provide some of the cleanest estimates to date that board independence matters, and the finding that board effectiveness depends on information cost supports a nascent theoretical literature emphasizing information asymmetry.*

In Hong Kong, given the level of firm transparency and high costs of acquiring information, the effect of adding INEDs on the performance of family-controlled firms is lower than that on the performance of non-family-controlled firms, as confirmed by the

panel regression results.

Finally, the dilution of independence resulting from the appointment of family members to boards provides another strong possible reason for the unexpected and inconsistent results of family-controlled businesses. New INEDs do not go against the wishes of the board, and they risk failing to gain re-appointment when they voice their own views (Jaggi, Leung, & Gul, 2009).

Chapter 8. Conclusion and Follow-up

8.1 Introduction

This study aims to provide detailed analysis of the effects of board composition changes (mainly INED-related changes) on the performance of companies in different segments in Hong Kong. Agency theory serves as the main theoretical thread, and panel data regression analysis is used extensively rather than traditional OLS regression or multivariable regression analysis.

To provide background information and identify relevant research gaps, the study begins by explaining its motivations and the queries surrounding the relationship between corporate governance and financial crises that have occurred over the past 20 years, including what happens when better corporate governance is implemented in companies and why corporate scandals or crises have repeatedly occurred in the last two decades.

Various regulatory authorities worldwide have enacted on-going corporate reforms to address these corporate scandals or financial crises. One of the key areas of change recommended by these reports has been the change in board composition with a focus on INEDs.

The literature review begins by considering several financial crises and their connections with corporate governance. Large concerns have been raised as to the usefulness of the earnings management recommendations of several reports such as the Cadbury report, the Code of Best Practices in the UK and the recent Sarbanes-Oxley Act in the US. The interconnections between corporate governance, the market and legal and regulatory environments are also discussed and considered. One of the most important areas in corporate governance is board composition. The literature review particularly focuses on the relationships between board composition, board independence and business

performance.

In establishing a focus and narrowing the research gaps, this study considers different theories to understand the effects of board composition (especially INED-related changes) on business performance. It ultimately seeks to answer the following two main research questions.

1. What is the relationship between INEDs and company performance?

2. Do INED-related changes have different effects on the performance of companies in different segments in Hong Kong?

As in much of the research conducted in this area, agency theory (supplemented by resource dependence theory) is used as the main theoretical thread in this study to understand and analyse the correlations of board composition and firm performance, which is a particular principle-agent problem focusing on the monitoring role and other roles of INEDs on boards.

8.2 Main findings of this research

It was not until recently that local and international institutional investors became the main investors in the Hong Kong capital market. Due to the market reform enacted in China in the early 1990s, funds could only be invested in certain approved companies on the SEHK and government-controlled entities had to be listed as H-share and red chip companies in Hong Kong. Hence, understanding the differences in corporate governance structure and the effects of the roles of INEDs on boards between businesses in China and Hong Kong has become increasingly important.

The previous research related to the effects of independent directors on firm performance has mainly been conducted in markets outside Hong Kong, particularly in US markets

situated in the unitary board system. However, this research has focused on the effects on different segments of companies with different backgrounds in the local market of Hong Kong, especially SOEs in China, which adopt the two-tiered board system, and family businesses in Hong Kong, which are controlled by their major family member shareholders.

Furthermore, beyond the OLS or two-stage least squares regression methods used in previous research, the fixed effects model (with the random and mixed effects models as supplements) is used as the panel data regression method for this particular area of research where longitudinal data are employed over time. The key findings related to the panel data regression of the Hong Kong companies are obtained by dividing the companies into different groups, which yields the valuable insight that different segments of the companies in Hong Kong are subject to quite different effects as the required proportion of INEDs increases during the period under consideration.

In broad terms, the effects of increasing the number of INEDs are inconsistent across all of the companies in Hong Kong and insignificant for the HSI constituent companies in general, a finding supported by some research indicating no connection between board independence and firm performance (Bhagat & Black, 2002; Dalton, Daily, Ellstrand, & Johnson, 1998; Dulewicz & Herbert, 2004). It can also be explained by the leadership of the HSI constituent firms, which should have better corporate governance structures. The increase in INEDs has only minimal positive effects on the performance of HSI constituent firms. However, the increase in INEDs has strong positive effects on the performance of companies listed in the GEM. This increase can be explained by resource dependence theory in addition to agency theory, as INEDs are good resources for these growing or immature companies to obtain diversified information and therefore develop their businesses and improve their

performance.

To further understand whether the inconsistent results are valid for all of the companies in Hong Kong, the companies are divided into Chinese and non-Chinese categories, and the non-Chinese companies are divided further into family- and non-family-controlled firms to test the hypothesis that whether INEDs have positive effects on firm performance in these segments. There are two main types of Chinese firms listed on the SEHK: H-share and red chip companies. The formation and listing procedures of these companies are very different. H-share companies are listed in Hong Kong but incorporated in China, and their funds are usually raised through IPOs in Hong Kong. However, red chip companies are incorporated in Hong Kong, and their funds are usually raised through shell companies. The H-share companies are usually under the control of the central government and the red chip companies are under the control of the local government. Increasing the number of INEDs has negative effects on the performance of H-share companies, and the results for the red chip companies are insignificant.

These results can be attributed to the Chinese government's degree of control over boards and the effects of information costs. As the other internal directors representing the central Chinese government on the boards of the H-share companies exert tighter control, the INEDs cannot easily obtain necessary information from those boards, and their presence on the boards may even have negative and unexpected effects on the operations and performance of the companies (probably due to the conflicts inside the board and due to the minimum effects of the monitoring). However, the red chip companies are under less control from the local Chinese government, as they are set up in Hong Kong and their practices or operations can probably follow tradition. Hence, the effects of INEDs on firm performance are more or less the same when compared with the results of all of the companies in Hong

Kong.

As many non-Chinese companies are controlled by big families in Hong Kong, it is important to understand the distinction between family- and non-family-controlled firms when considering the effects of INEDs. The effects are inconsistent for family-controlled firms but positive in general for non-family-controlled firms. A similar observation can be made about Chinese firms. INEDs have unexpected and negative effects on family-controlled Chinese firms. However, as INEDs carry out their duties effectively, play a monitoring role and give extra direction, they have positive effects on non-family-controlled firms.

8.3 Relationship of the results to agency and resource dependence theory

The preceding main findings related to effects of INEDs on firm performance provide no universal conclusion for all of the companies in Hong Kong, regardless of whether the effects are positive, negative or non-correlational. Although the results seem to be mixed, they can be explained after dividing the companies into different segments using agency theory, the three board views and resource dependency theory.

As discussed in Chapter 2, resource dependence theory considers the board's function in providing the resources necessary to help the operations, strategic plan and direction of the business entity. When INEDs are added and provide advice to a board (i.e., provide resources) and fulfil their monitoring role effectively (according to agency theory), they typically have positive effects on business performance.

Although the results are mixed for all of the companies in Hong Kong, this does not mean the preceding theories are incorrect, only that the different segments of the companies should be separated. INEDs can have positive effects on red chip and non-family-controlled firms, as they are fulfilling the monitoring role on their boards

effectively (i.e., the entrenchment view). However, as the boards of H-share and family-controlled businesses are already optimal in the sense that they are under strict control by their major shareholders and ensure the best performance, the inclusion of INEDs results in a suboptimal board and decreases firm performance (i.e., the optimisation view). Considering the results differently, if the INEDs cannot gain access to the information required to make decisions and monitor the board effectively, then they cannot have positive effects on firm performance as expected. Although the information costs in these companies are high, they are lower in red chip and non-family-controlled firms. However, as discussed in Chapter 4, the information cost variables in Hong Kong could not be constructed or extracted, and the transparency of these companies is subject to debate.

8.4 Limitations of the study

Studies of the effects of corporate governance and board composition on firm performance have been very broad. This study does not intend to be a complete guide to board composition or corporate governance and in fact presents a number of limitations in these areas. The author has tried to address these limitations by identifying them so that future related research can be undertaken. The main limitations of this study are outlined as follows.

1. Missing information cost data

The author has tried to use the same information cost model to explain the effects of INEDs on performance, i.e., whether and when board independence matters (Duchin et al., 2010). As explained in Chapter 4, the author could not retrieve enough data related to information costs from the IBEX database (the only database that could provide such information about analyst forecasts in Hong Kong). The analysts from the financial institutions or rating

agencies might not have been interested in companies in Hong Kong or might not have had enough information to make the forecasts. When no analysts follow such companies, less information is available to outsiders and no forecasts about the stock prices of these companies can be made.

If this information cost data could have been included in the model adopted in this study, then the model could have explicitly shown the relationship between information cost and INED-related effects.

The three measures of information costs adopted in that study are summarised and quoted as follows.

i. Number of analysts who posted forecasts: defined as the number of analysts (count of analysts) who posted forecasts about the firm in a given year. The more analysts posted forecasts mean a lower information cost.

ii. Dispersion of analysts' forecasts.

> *The second measure is the dispersion of analyst forecasts, measured as the standard deviation of earnings forecasts across analysts prior to a quarterly earnings announcement, normalized by the firm's total book assets and averaged across four quarters in a given year.*

If there is a lack of consensus among analysts (high standard deviation) would suggest it is difficult for outsiders or INED to become informed about the firm. (Duchin et al., 2010)

iii. Analyst forecast error.

> *The third measure is the analyst forecast error, measured as the absolute difference between the mean analyst earnings forecast prior to a quarterly earnings*

announcement and the actual earnings, normalized by the firm's total book assets

and averaged across four quarters in a given year.

A large forecast error would indicate a greater difficulty of becoming informed and a high information cost. (Duchin et al., 2010)

In conclusion, if rating agencies were to provide more forecast data for Hong Kong in the future, then the information cost estimates could be used to evaluate the effectiveness of INEDs.

2. Other attributes of corporate governance

The HKEx's 2012 consultancy paper emphasises that board diversity should be considered in a corporate governance structure. Although this study focuses mainly on INEDs, other attributes such as board member gender, board meeting frequencies, INED qualifications and effects on corporate social responsibility could be included and considered in future research.

3. Period of study and INED supply

The research period in this study is not long enough. Additional coverage of another 10 years would be highly recommended for similar research. The new requirement (which began in 2012) of increasing the proportion of INEDs on boards to one third is new to many companies. The initial addition of new INEDs should require some adjustment and meet with some opposition from current board members, especially those in Chinese and family-controlled companies. The supply of qualified INEDs is also subject to the market's capacity to train those INEDs. Further analysis of an extended period should better clarify the effects of INEDs on these companies.

8.5 Conclusion

A better understanding of the effects of INEDs is not universal for all types or segments of companies. Segments of companies such as Chinese and family-controlled firms are quite different from non-Chinese and non-family-controlled firms. The effects of increasing the INED for all of the segments of companies in Hong Kong should be further reviewed.

Chapter 9. Future Outlook and Implications

9.1 Introduction

This study focuses mainly on independent directors and does not purport to be an exhaustive study of all matters pertaining to the effects of board composition on firm performance or corporate governance and its related topics. There are many other information-related areas of research potential not covered in this study.

This study contributes to the body of knowledge on implementing panel data regression methods related to corporate governance and especially the effects of changes in independent directors on the performance of companies in Hong Kong.

This chapter sets out some recommendations for further research and reveals their potential implications.

9.2 Recommendations for further study

The recommendations for further study involve topics that this study touches upon and are discussed in the context of the research objectives but not explored in detail. These topics could be further explored as specific individual research topics in their own right. The following topics are recommended for further study:

1. INED effectiveness;

2. cross-listing of firms in other regions;

3. firm transparency; and

4. firm culture and social performance.

1. INED effectiveness

Whether investors or the market believe in INEDs depends on their effectiveness, which is measured by their quality and individual characteristics.

There are many different possible reasons why the usefulness of INEDs can decrease, and these reasons may influence their supposed positive effects on firm performance.

The possible reasons for the poor effects of INEDs according to Cheung et al. (2007) are summarised as follows, modified with other arguments by the author.

i. INEDs may be ineffective due to the passive attitudes of a board in addressing the importance of the monitoring function. ii. Slow-growing companies require different proportions of INEDs compared with fast-growing companies. This idea is verified by the GEM companies in the main findings. iii. The endogeneity problem related to whether board composition influences firm performance or vice versa is not present in this study, as an exogenous change took place when the required numbers of INEDs changed in 2004 and 2012. iv. Whether INEDs are included on all of the important committees of a board should be considered v. Whether the professional knowledge of INEDs allows them to perform their tasks effectively and efficiently should be considered. vi. The degree of independence of INEDs and whether any personal or social friendship exists between INEDs and CEOs should be considered.

Finally, on-site visits to board meetings should be conducted to clarify how the board-related functions of INEDs can be fulfilled effectively and efficiently, especially for SOEs and family-controlled companies.

2. Cross-listing of firms in other regions

The recent INED-related changes in other regions should be studied in detail. A

comprehensive review of the changes in corporate governance should not be limited to the board structures in other regions. Changes in company law with a focus on government-controlled businesses and family firms should also be considered. The effects of the recent reform in China's A-share companies are not examined on this paper, and the recent changes in company law and corporate governance have introduced new requirements for the INEDs in Chinese firms. Any advantages presented by the cross-listing of the firms in both the Chinese stock markets and HKEx should be studied in further detail. It has been suggested that the cross-listing of firms in the US market offers better protection to minority shareholders (Mitton, 2002).

Whether cross-listing improves firm performance, stabilises stock returns or makes returns more attractive when compared with volatility should be considered along with the tax treatment of dual listings.

3. Firm transparency

Armstrong et al. (2013) observe the following:

> *Independent directors, as outsiders to the firm, must acquire and process a substantial amount of firm-specific information to effectively perform their advising and monitoring duties. When the corporate information environment is opaque, and there are significant costs to acquire and process detailed information about their firm's operating, financing, and investing activities, independent directors are less effective.*

However, firm transparency can be endogenously affected by the financial reporting environment and INED. The issue of whether INED effectiveness is influenced by firm transparency is complicated and may necessitate further research for Hong Kong companies. In addition, as discussed in previous chapters, further study of the effects of information

costs that considers the increased involvement of institutional investors in Hong Kong would be very important to the understanding of the INEDs.

4. Firm culture and social performance

Different firm cultures affect firm performance. Studies have claimed that strong firm cultures are consistent with strong firm performance: '*Strong-culture firms have more reliable (fewer variables) performance. In volatile environments, however, the reliability benefits of strong cultures disappear*' (Sørensen, 2002). Furthermore, according to Wang and Choi (2013), '*The relationship between corporate social performance and financial results has been a topic of interest to scholars of organizational research in general and business ethics in particular for more than three decades*'. The consistency of a company's social-financial performance (i.e., the application of the principles of social responsibility) should also be considered.

9.3 Conclusion

Corporate governance is always subject to review and reform to help direct business more effectively in different regions around the world. As quoted in Chapter 2, the OECD defines corporate governance as follows: '*Corporate governance is about the way in which boards oversee the running of a company by its managers, and how board members are in turn accountable to shareholders and the company.*' Hence, the most important element of corporate governance is the board of the firm. A better understanding of the nature and functions of board composition in terms of aspects such as transparency and information costs in addition to the advantages of cross-listing and independent director effectiveness would produce better boards and improve firm performance.

These recommendations do not comprise an exhaustive list of areas for further study. Future research would be very wide when considering all of the areas related to how corporate governance affects firm operations and performance.

Appendix

A1 Price data downloaded from DataStream

- Another example is attached, including an extract of the **stock price** data from 1999 to 2012 downloaded and the formulas used.
- *Formulas: NAME,MNEM,AVG#(X(P), 01/01/99,31/12/99),AVG#(X(P), 01/01/00,31/12/00),AVG#(X(P), 01/01/0,31/12/01),AVG#(X(P), 01/01/02,31/12/02),AVG#(X(P), 01/01/03,31/12/03),AVG#(X(P), 01/01/04,31/12/04),AVG#(X(P), 01/01/05,31/12/05),AVG#(X(P), 01/01/06,31/12/06),AVG#(X(P), 01/01/07,31/12/07),AVG#(X(P), 01/01/08,31/12/08),AVG#(X(P), 01/01/09,31/12/09),AVG#(X(P), 01/01/10,31/12/10),AVG#(X(P), 01/01/11,31/12/11),AVG#(X(P), 01/01/12,31/12/12)*

- *The extract of the result contains downloaded price data.*

Type	NAME	MNEMONIC	P1999	P2000	P2001	P2002	P2003	P2004	P2005	P2006	P2007	P2008	P2009	P2010	P2011	P2012
31447H	AAC TECHNOLOGIES HDG.	K:AACA	NA	NA	NA	NA	NA	NA	4.096	7.63	8.587	6.167	6.525	14.671	18.403	24.25:
314059	ABC COMMS.(HOLDINGS)	K:ABCC	1.891	1.335	0.84	0.242	0.277	0.494	0.687	0.566	0.571	0.574	1.792	1.734	0.519	0.419
13470H	ABC MULTIACTIVE	K:ABC	NA	NA	4.016	0.877	0.13	0.118	0.094	0.09	0.291	0.21	0.225	0.362	0.434	0.175
280043	ACROSSASIA	K:AASI	NA	2.124	1.517	0.123	0.056	0.137	0.143	0.143	0.17	0.128	0.064	0.166	0.117	0.107
77667R	ACTIVE GROUP HOLDINGS	K:AGHL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.155	1.061
31923V	ADDCHANCE HOLDINGS	K:ADDC	NA	NA	NA	NA	NA	NA	1.015	1.075	1.233	1.063	1.123	1.278	0.906	0.8€
27979D	ADVANCED CARD SYS.HDG.	K:ACS	NA	NA	NA	NA	0.242	0.17	0.087	0.098	0.265	0.311	0.304	0.438	0.341	0.409
35608W	ADVANCED SEMICON.MNFG	K:ADSM	NA	NA	NA	NA	NA	NA	NA	1.318	0.713	0.217	0.216	0.423	0.509	0.297
356865	AEON CREDIT SER.(ASIA)	K:AEON	2.287	2.609	2.64	2.921	3.383	5.189	5.487	6.09	6.82	6.321	5.035	6.567	6.096	6.524
362026	AEON STORES (HONG KONG	K:JUSC	0.744	0.789	1.107	3.289	2.944	6.461	8.461	8.761	12.633	13.524	11.765	13.687	16.852	21.20€
32484K	AGILE PROPERTY HDG.	K:AGIL	NA	NA	NA	NA	NA	NA	3.735	5.522	11.342	7.054	7.987	9.84	10.127	9.32€
69713K	AGRICULTURAL BANK OF C	K:ABOC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.864	3.827	3.344
889494	AGRITRADE RESOURCES	K:KHIN	2.159	1.316	0.953	0.485	1.102	1.375	0.33	0.233	0.526	0.538	0.619	1.115	0.837	0.417
28348D	AGTECH HOLDINGS	K:MGIN	NA	NA	NA	NA	NA	0.031	0.015	0.255	1.406	0.609	0.28	0.306	0.361	0.211
70899K	AIA GROUP	K:AGP	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.652	24.588	27.70¢

By using the lookup function from the local code provided by the DataStream, stock

numbers were matched based on the types of companies in the downloaded data as follows.

Type	StockNo	Company Name
31447H	2018	AAC TECHNOLOGIES HDG.
314059	30	ABC COMMS. (HOLDINGS)
13470H	8131	ABC MULTIACTIVE
280043	8061	ACROSSASIA
77667R	1096	ACTIVE GROUP HOLDINGS
31923V	3344	ADDCHANCE HOLDINGS
27979D	8210	ADVANCED CARD SYS.HDG.
35608W	3355	ADVANCED SEMICON.MNFG. 'H'
356865	900	AEON CREDIT SER. (ASIA)
362026	984	AEON STORES (HONG KONG)
32484K	3383	AGILE PROPERTY HDG.
69713K	1288	AGRICULTURAL BANK OF CHINA 'H'
889494	1131	AGRITRADE RESOURCES
28348D	8279	AGTECH HOLDINGS
70899K	1299	AIA GROUP
29909L	753	AIR CHINA 'H'
50313X	538	AJISEN (CHINA) HOLDINGS
29351E	8298	AKM INDUSTRIAL CO.
316304	328	ALCO HOLDINGS
316266	684	ALLAN INTL.HDG.
86636W	1312	ALLIED CEMENT HOLDINGS
771026	373	ALLIED GROUP SUSP - SUSP.15/10/13

Table A1-1 Table matching the local code of DataStream and stock numbers

A2 SQL command to link the different datasheets into a 'long form' panel data database

The followings SQL commands from the Access database program were extracted to convert the panel data from the 'long form' format in different tables into a 'long form' format in a single table, which was inputted into the Stata program for further analysis. The data were then converted from the 'long form' format into the 'wide form' format.

SELECT SN.StockNo, PTRN.STRN2000,PTRN.STRN2001, PTRN.STRN2002, PTRN.STRN2003, PTRN.STRN2004, PTRN.STRN2005, PTRN.STRN2006, PTRN.STRN2007, PTRN.STRN2008, PTRN.STRN2009, PTRN.STRN2010, PTRN.STRN2011, P.P1999, P.P2000,P.P2001, P.P2002, P.P2003, P.P2004, P.P2005, P.P2006, P.P2007, P.P2008, P.P2009, P.P2010, P.P2011, T.T2000, T.T2001, T.T2002, T.T2003, T.T2004, T.T2005, T.T2006, T.T2007, T.T2008, T.T2009, T.T2010, T.T2011, T.T2012, TC.TC2001, TC.TC2002, TC.TC2003, TC.TC2004, TC.TC2005, TC.TC2006, TC.TC2007, TC.TC2008, TC.TC2009, TC.TC2010, TC.TC2011, TC.TC2012, INEDC.INEDC2000, INEDC.INEDC2001, INEDC.INEDC2002, INEDC.INEDC2003, INEDC.INEDC2004, INEDC.INEDC2005, INEDC.INEDC2006, INEDC.INEDC2007, INEDC.INEDC2008, INEDC.INEDC2009, INEDC.INEDC2010, INEDC.INEDC2011, INEDC.INEDC2012, INEDC.INEDC2000, INEDN.INEDN1999, INEDN.INEDN2000, INEDN.INEDN2001, INEDN.INEDN2002, INEDN.INEDN2003, INEDN.INEDN2004, INEDN.INEDN2005, INEDN.INEDN2006, INEDN.INEDN2007, INEDN.INEDN2008, INEDN.INEDN2009, INEDN.INEDN2010, INEDN.INEDN2011, INEDN.INEDN2012, BS.BS2001, BS.BS1999, BS.BS2000, BS.BS2002, BS.BS2003, BS.BS2004, BS.BS2005, BS.BS2006, BS.BS2007, BS.BS2008, BS.BS2009, BS.BS2010, BS.BS2011, BS.BS2012, ROE.ROE2000,ROE.ROE2001, ROE.ROE2002, ROE.ROE2003, ROE.ROE2004, ROE.ROE2005, ROE.ROE2006, ROE.ROE2007, ROE.ROE2008, ROE.ROE2009, ROE.ROE2010, ROE.ROE2011, ROA.ROA2000,ROA.ROA2001, ROA.ROA2002, ROA.ROA2003, ROA.ROA2004, ROA.ROA2005, ROA.ROA2006, ROA.ROA2007, ROA.ROA2008, ROA.ROA2009, ROA.ROA2010, ROA.ROA2011, DE.DE2000,DE.DE2001, DE.DE2002, DE.DE2003, DE.DE2004, DE.DE2005, DE.DE2006, DE.DE2007, DE.DE2008, DE.DE2009, DE.DE2010, DE.DE2011, Mkt.Mkt2000,Mkt.Mkt2001, Mkt.Mkt2002, Mkt.Mkt2003, Mkt.Mkt2004, Mkt.Mkt2005, Mkt.Mkt2006, Mkt.Mkt2007, Mkt.Mkt2008, Mkt.Mkt2009, Mkt.Mkt2010, Mkt.Mkt2011, TA.TA2000, TA.TA2001, TA.TA2002, TA.TA2003, TA.TA2004, TA.TA2005, TA.TA2006, TA.TA2007, TA.TA2008, TA.TA2009, TA.TA2010, TA.TA2011, NI.NI2000,NI.NI2001, NI.NI2002, NI.NI2003, NI.NI2004, NI.NI2005, NI.NI2006, NI.NI2007, NI.NI2008, NI.NI2009, NI.NI2010, NI.NI2011, Debt.Debt2000, Debt.Debt2001, Debt.Debt2002, Debt.Debt2003, Debt.Debt2004, Debt.Debt2005, Debt.Debt2006, Debt.Debt2007, Debt.Debt2008, Debt.Debt2009, Debt.Debt2010, Debt.Debt2011, Equity.Equity2000, Equity.Equity2001, Equity.Equity2002, Equity.Equity2003, Equity.Equity2004, Equity.Equity2005, Equity.Equity2006, Equity.Equity2007,

Equity.Equity2008, Equity.Equity2009, Equity.Equity2010, Equity.Equity2011, Firmage.Firmage2011, Firmage.Firmage2012, IC1.IC12001, IC1.IC12002, IC1.IC12003, IC1.IC12004, IC1.IC12005, IC1.IC12006, IC1.IC12007, IC1.IC12008, IC1.IC12009, IC1.IC12010, IC1.IC12011, IC1.IC12012, IC2.IC22001, IC2.IC22002, IC2.IC22003, IC2.IC22004, IC2.IC22005, IC2.IC22006, IC2.IC22007, IC2.IC22008, IC2.IC22009, IC2.IC22010, IC2.IC22011, IC2.IC22012, IC3.IC32001, IC3.IC32002, IC3.IC32003, IC3.IC32004, IC3.IC32005, IC3.IC32006, IC3.IC32007, IC3.IC32008, IC3.IC32009, IC3.IC32010, IC3.IC32011, IC3.IC32012

FROM ((((((((((((((((((SELECT StockNo FROM PTRN

  UNION

        SELECT StockNo FROM P

  UNION

        SELECT StockNo FROM T

  UNION

        SELECT StockNo FROM TC

   UNION

        SELECT StockNo FROM INEDC

  UNION

        SELECT StockNo FROM INEDN

  UNION

        SELECT StockNo FROM BS

  UNION

        SELECT StockNo FROM ROE

  UNION

        SELECT StockNo FROM ROA

  UNION

        SELECT StockNo FROM DE

  UNION

        SELECT StockNo FROM Mkt

  UNION

SELECT StockNo FROM TA

UNION

SELECT StockNo FROM NI

UNION

SELECT StockNo FROM Debt

UNION

SELECT StockNo FROM Equity

UNION

SELECT StockNo FROM Firmage

UNION

SELECT StockNo FROM IC1

UNION

SELECT StockNo FROM IC2

UNION

SELECT StockNo FROM IC3) AS SN LEFT JOIN PTRN ON SN.StockNo=PTRN.StockNo) LEFT JOIN P ON SN.StockNo= P.StockNo) LEFT JOIN T ON SN.StockNo=T.StockNo) LEFT JOIN TC ON SN.StockNo=TC.StockNo) LEFT JOIN INEDC ON SN.StockNo=INEDC.StockNo) LEFT JOIN INEDN ON SN.StockNo=INEDN.StockNo) LEFT JOIN BS ON SN.StockNo=BS.StockNo) LEFT JOIN ROE ON SN.StockNo=ROE.StockNo) LEFT JOIN ROA ON SN.StockNo=ROA.StockNo) LEFT JOIN DE ON SN.StockNo=DE.StockNo) LEFT JOIN Mkt ON SN.StockNo=Mkt.StockNo) LEFT JOIN TA ON SN.StockNo=TA.StockNo) LEFT JOIN NI ON SN.StockNo=NI.StockNo) LEFT JOIN Debt ON SN.StockNo=Debt.StockNo) LEFT JOIN Equity ON SN.StockNo= Equity.StockNo) LEFT JOIN Firmage ON SN.StockNo =Firmage.StockNo) LEFT JOIN IC1 ON SN.StockNo=IC1.StockNo) LEFT JOIN IC2 ON SN.StockNo=IC2.StockNo) LEFT JOIN IC3 ON SN.StockNo= IC3.StockNo)

A3 Sample Stata commands for reshaping the panel data

1. Reshaping the data from the 'wide form' format into the 'long form' format

The commands and results are shown as follows.

reshape long FA EPS PE P STRN T TC INEDR INEDN BS ROE ROA DE Mkt TA NI Debt Equity IC1 IC2 IC3 RI, i(StockNo) j(Year)

reshape   long EPS PE P T TC INEDR INEDN BS ROE ROA DE Mkt TA NI Debt Equity IC1 IC2
IC3, i(StockNo) j(Year)

```
   Data                              wide   ->   long
----------------------------------------------------------------------------
Number of obs.                    1780   ->    26700
Number of variables               255    ->        36
j variable (15 values)                   ->    Year
xij variables:
EPS1999 EPS2000 ... EPS2013    ->    EPS
PE1999 PE2000 ... PE2013    ->    PE
P1999 P2000 ... P2013    ->    P
T1999 T2000 ... T2013    ->    T
TC1999 TC2000 ... TC2013    ->    TC
INEDR1999 INEDR2000 ... INEDR2013    ->    INEDR
INEDN1999 INEDN2000 ... INEDN2013    ->    INEDN
BS1999 BS2000 ... BS2013    ->    BS
ROE1999 ROE2000 ... ROE2013    ->    ROE
ROA1999 ROA2000 ... ROA2013    ->    ROA
DE1999 DE2000 ... DE2013    ->    DE
Mkt1999 Mkt2000 ... Mkt2013    ->    Mkt
TA1999 TA2000 ... TA2013    ->    TA
NI1999 NI2000 ... NI2013    ->    NI
Debt1999 Debt2000 ... Debt2013    ->    Debt
Equity1999 Equity2000 ... Equity2013    ->    Equity
IC11999 IC12000 ... IC12013    ->    IC1
IC21999 IC22000 ... IC22013    ->    IC2
IC31999 IC32000 ... IC32013    ->    IC3
```

Diagram A3-1 Results after the xtset command

2. Declare the data as panel data using the xtset command

xtset StockNo Year

Panel variable: StockNo (strongly balanced)

Time variable: 2000 to 2011

Delta: 1 unit

A4 Sample results of different panel regressions for family-controlled firms using Stata

	Panel regression model			INEDR	FA	DE	BS	logEquity	logDebt	LogTA	LogMkt
	mixed RIp INEDR || StockNo:		RI	0.407							
Z-score		Std error		0.187							
		P-value		0.030							
	mixed STRN INEDR || StockNo:		Stock return	0.182							
		Std error		0.091							
		P-value		0.046							
	mixed ROE INEDR || StockNo:		ROE	0.089							
		Std error		0.124							
		P-value		0.476							
	mixed ROA INEDR || StockNo:		ROA	No result available from mixed regression							
		Std error									
		P-value									
	mixed TC INEDR || StockNo:		TC	1.492							
		Std error		1.484							

		P-value		0.314							
Xtreg,FE											
	xtreg RIp INEDR, fe		**RI**	0.169							
		Std error		0.129							
t value		**P-value**		0.189							
	xtreg TC INEDR , fe		**TC**	(0.111)							
		Std error		0.078							
		P-value		0.154							
	xtreg ROE INEDR , fe		**ROE**	(0.025)							
		Std error		0.021							
		P-value		0.225							
	xtreg ROA INEDR , fe		**ROA**	(0.020)							
		Std error		0.027							
		P-value		0.459							
	xtreg RIp INEDR FA DE BS, fe		**RI**	0.242	(0.041)	0.000	0.139				
		Std error		0.278	0.012	0.000	0.015				
		P-value		0.384	0.000	0.730	0.000				

xtreg TC INEDR FA DE BS, fe		**TC**	3.025	(0.235)	0.000	0.464				
		Std error	2.214	0.091	0.000	0.111				
		P-value	0.172	0.010	0.982	0.000				
xtreg ROE INEDR FA DE BS, fe		**ROE**	0.112	(0.010)	(0.000)	0.008				
		Std error	0.133	0.005	0.000	0.007				
		P-value	0.400	0.030	0.003	0.243				
xtreg ROA INEDR FA DE BS, fe		**ROA**	(0.731)	0.183	(0.000)	(0.393)				
		Std error	2.155	0.092	0.000	0.114				
		P-value	0.734	0.046	0.977	0.001				
xtreg RIp INEDR FA DE BS logEquity logDebt logTA logMkt , fe		**RI**	(0.129)	(0.039)	0.000	0.061	(0.090)	0.044	(0.677)	0.912
		Std error	0.238	0.011	0.000	0.013	0.072	0.024	0.096	0.039
		P-value	0.586	0.000	0.758	0.000	0.212	0.064	0.000	0.000
xtreg TC INEDR FA DE BS logEquity logDebt logTA logMkt , fe		**TC**	(0.302)	(0.008)	(0.000)	0.010	(0.211)	0.005	(0.241)	0.418
		Std error	0.130	0.006	0.000	0.007	0.037	0.012	0.050	0.020
		P-value	0.020	0.192	0.584	0.144	0.000	0.694	0.000	0.000
xtreg ROE INEDR FA DE BS logEquity logDebt logTA logMkt , fe		**ROE**	0.093	(0.012)	(0.001)	(0.002)	(0.611)	(0.022)	0.566	0.113

		Std error		0.150	0.007	0.000	0.008	0.066	0.015	0.073	0.025
		P-value		0.534	0.068	0.000	0.834	0.000	0.134	0.000	0.000
	xtreg ROA INEDR FA DE BS logEquity logDebt logTA logMkt , fe		**ROA**	0.071	(0.006)	0.000	(0.000)	0.111	(0.003)	(0.100)	0.030
		Std error		0.044	0.002	0.000	0.002	0.013	0.004	0.018	0.007
Xtreg, RE		**P-value**		0.104	0.007	0.826	0.965	0.000	0.460	0.000	0.000
	xtreg RIp INEDR, re		**RI**	0.407							
		Std error		0.187							
		P-value		0.030							
	xtreg TC INEDR , re		**TC**	0.006							
		Std error		0.055							
		P-value		0.916							
	xtreg ROE INEDR , re		**ROE**	(0.006)							
		Std error		0.019							
		P-value		0.737							
	xtreg ROA INEDR , re		**ROA**	(0.059)							

		Std error	0.026							
		P-value	0.021							
	xtreg RIp INEDR FA DE BS, re	**RI**	0.641	(0.015)	0.000	0.064				
		Std error	0.192	0.004	0.000	0.009				
		P-value	0.001	0.000	0.858	0.000				
	xtreg TC INEDR FA DE BS, re	**TC**	2.243	(0.062)	(0.000)	0.175				
		Std error	1.561	0.031	0.000	0.070				
		P-value	0.151	0.048	0.996	0.013				
	xtreg ROE INEDR FA DE BS, re	**ROE**	0.139	(0.008)	(0.000)	0.005				
		Std error	0.127	0.004	0.000	0.006				
		P-value	0.272	0.054	0.058	0.469				
	xtreg ROA INEDR FA DE BS, re	**ROA**	(2.218)	0.064	(0.000)	(0.195)				
		Std error	1.609	0.037	0.000	0.077				
		P-value	0.168	0.086	0.987	0.011				
	xtreg RIp INEDR FA DE BS logEquity logDebt logTA logMkt , re	**RI**	0.041	(0.011)	0.000	0.037	(0.039)	0.058	(0.660)	0.721
		Std error	0.204	0.007	0.000	0.011	0.062	0.021	0.080	0.033

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Regression										
		P-value	0.843	0.089	0.806	0.000	0.529	0.006	0.000	0.000
xtreg TC INEDR FA DE BS logEquity logDebt logTA logMkt , re	**TC**		(0.219)	0.003	(0.000)	(0.005)	(0.147)	0.018	(0.199)	0.310
		Std error	0.100	0.003	0.000	0.005	0.029	0.010	0.037	0.015
		P-value	0.029	0.274	0.299	0.356	0.000	0.064	0.000	0.000
xtreg ROE INEDR FA DE BS logEquity logDebt logTA logMkt , re	**ROE**		0.102	0.002	(0.000)	(0.011)	(0.650)	(0.022)	0.545	0.116
		Std error	0.135	0.005	0.000	0.007	0.056	0.013	0.062	0.022
		P-value	0.451	0.615	0.000	0.122	0.000	0.103	0.000	0.000
xtreg ROA INEDR FA DE BS logEquity logDebt logTA logMkt , re	**ROA**		0.023	(0.001)	0.000	(0.004)	0.092	(0.003)	(0.075)	0.023
		Std error	0.038	0.001	0.000	0.002	0.012	0.004	0.015	0.006
		P-value	0.555	0.565	0.698	0.057	0.000	0.458	0.000	0.000

Diagram A4-2 Results of regression of firm performance on board independence of family-controlled firms using various panel regression methods

A5 INED ratio calculation procedures

The main director data were collected from annual reports and the HKEx website. The number of INEDs and board sizes of each company in each year from 1999 to 2011 were extracted and rearranged in the following format so that the INEDR of each company could be calculated using the spreadsheet program for further input into the Stata program.

The directors and related details are presented in Diagram A5-3 and A5-4 for illustration.

Director's English Name	Capacity	Position	Appointment	Resignation	Revised resign	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
MUSCHALIK James Frederick	Alternate D	AD	2012-01-20		2119/1/11	N	N	N	N	N	N	N	N	N	N	N
NEO Kim Teck	Alternate D	AD	2008-01-01	2012-01-20	2012-01-20	N	N	N	N	N	N	N	N	N	AD	AD
NEO Kim Teck	Alternate D	AD	2007-06-01	2007-12-15	2007-12-15	N	N	N	N	N	N	N	N	AD	N	N
BRANDLER Andrew Clifford W	Executive D	ED	CEO	2000-05-06	2119/1/11	N	ED	ED	ED	ED	ED	ED	ED	ED	ED	ED
GREENWOOD Peter William	Executive D	ED	2007-03-01		2119/1/11	N	N	N	N	N	N	N	N	ED	ED	ED
TSE Pak Wing Peter	Executive D	ED	2000-02-17		2119/1/11	N	ED	ED	ED	ED	ED	ED	ED	ED	ED	ED
LEE Yui Bor	Executive D	ED	2003-08-04	2007-01-31	2007-01-31	N	N	N	N	ED	ED	ED	ED	ED	N	N
CHENG Hoi Chuen Vincent	Independen	INED	2011-08-17		2119/1/11	N	N	N	N	N	N	N	N	N	N	N
EDDINGTON Roderick Ian	Independen	INED	2006-01-01		2119/1/11	N	N	N	N	N	N	N	INED	INED	INED	INED
FAN Chiu Fun Fanny	Independen	INED	2011-08-17		2119/1/11	N	N	N	N	N	N	N	N	N	N	N
LOH Chung Hon Hansen	Independen	INED	2000-05-05		2119/1/11	N	INED	INED	INED	INED	INED	INED	INED	INED	INED	INED
CHUNG Sze Yuen	Independen	INED	1967-03-23	2011-05-12	2011-05-12	INED	INED	INED	INED	INED	INED	INED	INED	INED	INED	INED
KAN Man Lok Paul	Independen	INED	2001-09-07	2010-04-01	2010-04-01	N	N	INED	INED	INED	INED	INED	INED	INED	INED	INED
LEE Ting Chang Peter	Independen	INED	2007-03-01	2009-10-17	2009-10-17	N	N	N	N	N	N	N	N	INED	INED	INED
YANG Mun Tak Marjorie	Independen	INED	2008-06-01	2009-01-20	2009-01-20	N	N	N	N	N	N	N	N	N	INED	INED
FUNG Kwok Lun William	Independen	INED	1994-08-26	2008-04-01	2008-04-01	INED	INED	INED	INED	INED	INED	INED	INED	INED	INED	N
ALLEN Nicholas Charles	Independen	INED	2009-05-12		2119/1/11	N	N	N	N	N	N	N	N	N	N	INED
MOORE Vernon Francis	Independen	INED	1997-03-07		2119/1/11	INED	INED	INED	INED	INED	INED	INED	INED	INED	INED	INED
TSUI LAM Sin Lai Judy	Independen	INED	2005-05-10		2119/1/11	N	N	N	N	N	N	INED	INED	INED	INED	INED
BOYCE Ian Duncan	Non Execu	NED	1999-11-19		2119/1/11	NED	NED	NED	NED	NED	NED	NED	NED	NED	NED	NED
KADOORIE Michael David	Non Execu	NED	Chairman	1967-01-19	2119/1/11	NED	NED	NED	NED	NED	NED	NED	NED	NED	NED	NED
LEE Yui Bor	Non Execu	NED	2007-02-01		2119/1/11	N	N	N	N	N	N	N	N	NED	NED	NED
LEIGH John Andrew Harry	Non Execu	NED	1997-02-10		2119/1/11	NED	NED	NED	NED	NED	NED	NED	NED	NED	NED	NED
MCAULAY Ronald James	Non Execu	NED	1968-01-01		2119/1/11	NED	NED	NED	NED	NED	NED	NED	NED	NED	NED	NED
MOCATTA William Elkin	Non Execu	NED	1993-01-16		2119/1/11	NED	NED	NED	NED	NED	NED	NED	NED	NED	NED	NED
THEYS Paul Arthur	Non Execu	NED	2008-01-01		2119/1/11	N	N	N	N	N	N	N	N	N	NED	NED
WHITTLE Jason Holroyd	Non Execu	NED	2006-05-09	2010-07-01	2010-07-01	N	N	N	N	N	N	N	NED	NED	NED	NED
BISCHOF Rudolf	Non Execu	NED	1997-09-05	2010-04-01	2010-04-01	NED	NED	NED	NED	NED	NED	NED	NED	NED	NED	NED
DICKSON LEACH James Seym	Non Execu	NED	1978-12-15	2008-04-29	2008-04-29	NED	NED	NED	NED	NED	NED	NED	NED	NED	NED	N
TAN Puay Chiang	Non Execu	NED	2003-01-01	2007-12-15	2007-12-15	N	N	N	N	NED	NED	NED	NED	NED	N	N
		ED	NED	INED #		3	4	5	5	5	5	6	7	8	9	9
		ID		Total Direcotrs #		10	13	14	14	16	16	17	19	23	23	22
				% of INED		30.00%	30.77%	35.71%	35.71%	31.25%	31.25%	35.29%	36.84%	34.78%	39.13%	40.91%

Diagram A5-3 Extract of the directors of Cheung Kong Holdings Limited

An extract of the details of the directors of Cheung Kong Holdings Limited and CLP Limited is presented as follows.

1. CHEUNG KONG HOLDINGS (Officer and Director Overview and People Connections)

Name	Age	Current Position	Title Start Date	Director Since	Officer Since
Ka-shing Li	83	Executive Chairman of the Board	98	71	71
Tzar Kuoi (Victor) Li	47	Executive Deputy Chairman of the Board, Managing	99	--	93
Tak Chuen (Edmond) Ip	59	Deputy Managing Director, Executive Director	09/26/05	93	93
Hing Lam Kam	65	Deputy Managing Director, Executive Director	--	--	--
Kwok Hung (Justin) Chiu	61	Executive Director	00	00	00
Sun Keung (Davy) Chung	60	Executive Director	93	93	93
Yee Wan (Ezra) Pau	56	Executive Director	93	93	93
Chia Ching (Grace) Woo	55	Executive Director	96	96	96
Eirene Yeung	51	Director - Corporate Strategy Unit, Company Secretary	--	--	--
Kun Chee (Roland) Chow	74	Non-Executive Director	09/04	93	--
Kin Ning (Canning) Fok	60	Non-Executive Director	85	85	--
Siu Hon Leung	80	Non-Executive Director	09/04	84	--
George Magnus, OBE	76	Non-Executive Director	11/05	80	80
Frank Sixt	60	Non-Executive Director	91	91	--

Ying Chew (Henry)	64	Non-Executive Independent Director	09/04	09/04	--
Nin Mow (Albert) Chow	62	Non-Executive Independent Director	10/04	83	--
Siu-lin (Katherine) Hung	64	Non-Executive Independent Director	10/04	85	--
Tun-li (Stanley) Kwok	85	Non-Executive Independent Director	89	89	--
Simon Murray, CBE	72	Non-Executive Independent Director	93	93	--
Yick-ming (Rosanna)	59	Non-Executive Independent Director	01	01	--
Yuan Chang (Anthony)	88	Non-Executive Independent Director	93	93	--

Previous Officers

Name	Age	Latest Position Held	Officer Start	Officer End	Director Start	Director End
Andrew Hunter	53	Chief Financial Officer	--	10	--	--
Chiu Yin (Robert) Kwan, CPA	72	Non-Executive Independent Director	--	--	09/04	10/06

2. CLP HOLDINGS (Officer and Director Overview and People Connections)

Name	Age	Current Position	Title Start Date	Director Since	Officer Since
The Hon. Sir Michael Kadoorie, LL.D.	70	Non-Executive Chairman of the Board	97	01/19/67	--
Andrew Brandler	55	Chief Executive Officer, Executive Director	05/06/00	05/06/00	05/06/00
William Mocatta	58	Non-Executive Vice Chairman of the Board	99	01/16/93	--
Mark Takahashi	53	Chief Financial Officer, Group Director	06/01/09	--	--
So Siu Mai (Betty) Yuen, CPA	54	Vice Chairman of CLP Power Hong Kong Limited	10	--	--
Richard McIndoe	47	Managing Director, Australia and Group Director	06	--	--
Rajiv Mishra	46	Managing Director, India	07/05	--	07/05
Peter Greenwood	55	Group Executive Director - Strategy, Director	03/01/07	09/07/01	03/01/07
Richard Lancaster	50	Group Director and Managing Director, Hong Kong	10	--	10
Peter Littlewood	60	Group Director - Operations	05	--	--
Yiu Wai Yee (April) Chan		Company Secretary	--	--	--
Ian Boyce	67	Non-Executive Director	11/19/99	11/19/99	--

Name	Age	Position			
Dr Yui Bor Lee, Ph.D.	65	Non-Executive Director	02/01/07	08/04/03	08/04/03
John Leigh	58	Non-Executive Director	02/10/97	02/10/97	--
Ronald McAulay	76	Non-Executive Director	01/01/68	01/01/68	--
Paul Theys	54	Non-Executive Director	01/01/08	01/01/08	--
Pak Wing (Peter) Tse	61	Non-Executive Director	05/16/12	02/17/00	02/17/00
Nicholas (Nick) Allen, CPA	57	Independent Non-Executive Director	05/12/09	05/12/09	--
Hoi Chuen (Vincent) Cheng, OBE	63	Independent Non-Executive Director	08/17/11	08/17/11	--
Sir Roderick (Rod) Eddington	62	Independent Non-Executive Director	01/01/06	01/01/06	--
Vernon Moore	65	Independent Non-Executive Director	03/07/97	03/07/97	--
Prof. Lam Sin Lai (Judy) Tsui, Ph.D.	57	Independent Non-Executive Director	05/10/05	05/10/05	--

Previous Officers

Name	Age	Latest Position Held	Officer Start	Officer End	Director Start	Director End
Chung Hon (Hansen) Loh	74	Independent Non-Executive Director	--	--	05/05/00	05/10/12
Fan Chiu Fun (Fanny) Law		Independent Non-Executive Director	--	--	08/17/11	04/20/12
Dr Yu Ming Ko, Ph.D.	55	Managing Director, China	08	10/01/11	--	--
John Robertsson	46	Group Director - Corporate Finance and	--	09/30/11	--	--
Mark Jobling	39	Managing Director, Southeast Asia	--	07/01/11	--	--
The Hon. Sir Yuen Chung Sze, Ph.D.	93	Independent Non-Executive Director	--	--	03/23/67	05/12/11
Giuseppe Jacobelli	44	Group Director - Carbon Ventures	08	01/01/11	--	--

Jason Whittle	42	Non-Executive Director	--	--	05/09/06	07/01/10
Rudolf Bischof	70	Non-Executive Director	--	--	09/05/97	04/01/10
Dr Man Lok (Paul) Kan	64	Independent Non-Executive Director	--	--	09/07/01	04/01/10
Ting Chang (Peter) Lee	55	Independent Non-Executive Director	--	--	03/01/07	10/17/09
Mun Tak (Marjorie) Yang	59	Independent Non-Executive Director	--	--	06/01/08	01/20/09
James (Dinty) Dickson Leach	62	Non-Executive Director	--	--	12/15/78	04/29/08
Dr Kwok Lun (William) Fung, OBE	63	Independent Non-Executive Director	--	--	08/26/94	04/01/08
Zhongmin Shen	44	Managing Director, China	06	08	--	--
Puay Chiang Tan	65	Non-Executive Director	--	--	01/01/03	12/15/07
Michael Price	51	Director	--	--	09/07/01	04/01/02
S.F. Goldmann	57	Director	--	--	99	02
Kenneth Oberg	53	Managing Director, CLP Power	--	02	--	--
Paul Lok		Director	--	--	09/07/01	09/30/01
Jeffrey Bateson	45	General Manager - Group Strategy and Development	--	01	--	--
T. Lo	65	Director	--	--	--	01
Sandra Mak	41	Group Public Affairs Manager	--	01	--	--
Ross Sayers	58	Managing Director, Chief Executive Officer	93	01	--	--
Tammy Wong	41	Group Human Resources Manager	--	01	--	--

Diagram A5-4 Extract of the details of the directors of Cheung Kong Holdings Limited and CLP Limited

Bibliography

Anderson, A., & Gupta, P. P. (2009). A cross-country comparison of corporate governance and firm performance: Do financial structure and the legal system matter? *Journal of Contemporary Accounting & Economics, 5*(2), 61-79

Anderson, R. C., & Reeb, D. M. (2003). Founding-Family Ownership and Firm Performance: Evidence from the S&P 500. *Journal of Finance, 58*(3), 1301-1328

Armstrong, C. S., Core, J. E., & Guay, W. R. (2013). Do independent directors cause Improvements in Firm Transparency? *Journal of Financial Economics*(0)

Arosa, B., Iturralde, T., & Maseda, A. (2010). Outsiders on the board of directors and firm performance: Evidence from Spanish non-listed family firms. *Journal of Family Business Strategy, 1*(4), 236-245

Baayen, R. H., Davidson, D. J., & Bates, D. M. (2008). Mixed-effects modeling with crossed random effects for subjects and items. *Journal of Memory and Language, 59*(4), 390-412

Baber, W. R., & Liang, L. (2008). Associations Between Internal and External Corporate Governance Characteristics and the Consequences of Regulating Governance Practices. *Available at SSRN 1146922*

Bai, C.-E., Liu, Q., Lu, J., Song, F. M., & Zhang, J. (2004). Corporate governance and market valuation in China. *Journal of Comparative Economics, 32*(4), 599-616

Bainbridge, S. M. (2007). *The compete guide to Sabanes-Oxley*: Adams business.

Barnhart, S. W., & Rosenstein, S. (1998). Board composition, managerial ownership, and firm performance: An empirical analysis. *Financial Review, 33*(4), 1

Baysinger, B. D., & Butler, H. N. (1985). Corporate Governance and the Board of Directors: Performance Effects of Changes in Board Composition. *Journal of Law, Economics & Organization, 1*(1), 101

Benkel, M., Mather, P., & Ramsay, A. (2006). The association between corporate governance and earnings management: the role of independent directors. *Corporate Ownership & Control, 3*(4), 65-75

Berger, A. N., & Bonaccorsi di Patti, E. (2006). Capital structure and firm performance: A new approach to testing agency theory and an application to the banking industry. *Journal of Banking & Finance, 30*(4), 1065-1102

Berle, A. A., & Means, G. C. (1932). *The Modern Corporation and Private Property*: Transaction Publishers.

Bhagat, S., & Black, B. (2002). The Non-Correlation Between Board Indpendence and Long-Term Firm Performance. *Journal of Corporation Law, 27*(2), 231

Bhagat, S., & Bolton, B. (2013). Director Ownership, Governance, and Performance. *Journal of Financial and Quantitative Analysis, 48*(01), 105-135

Brown, L., & Caylor, M. (2009). Corporate governance and firm operating performance. *Review of Quantitative Finance and Accounting, 32*(2), 129-144

Cadbury_Committee. (1992). The Cadbury Report. Retrieved from http://www.jbs.cam.ac.uk/cadbury/report/index.html

Chan, K. C., & Li, J. (2008). Audit Committee and Firm Value: Evidence on Outside Top

Executives as Expert-Independent Directors. *Corporate Governance: An International Review, 16*(1), 16-31

Chan, P. T., Moshirian, F., Ng, D., & Wu, E. (2007). The underperformance of the growth enterprise market in Hong Kong. *Research in International Business and Finance, 21*(3), 428-446

Chen, C. J. P., & Jaggi, B. (2000). Association between independent non-executive directors, family control and financial disclosures in Hong Kong. *Journal of Accounting & Public Policy, 19*(4/5), 285-310

Chen, Z., Cheung, Y.-L., Stouraitis, A., & Wong, A. W. S. (2005). Ownership concentration, firm performance, and dividend policy in Hong Kong. *Pacific-Basin Finance Journal, 13*(4), 431-449

Cheung, Y.-L., Thomas Connelly, J., Limpaphayom, P., & Zhou, L. (2007). Do Investors Really Value Corporate Governance? Evidence from the Hong Kong Market. *Journal of International Financial Management & Accounting, 18*(2), 86-122

Chhotray, V., & Stoker, G. (2010). *Governance Theory and Practice: A Cross-Disciplinary Approach*: Palgrave MacMillan.

Chin-Jung, L., & Ming-Je, T. (2007). Where is Independent Director Efficacy? *Corporate Governance: An International Review, 15*(4), 636-643

Choi, F. D. S., & Meek, G. K. (2010). *International Accounting*: Prentice Hall.

Choi, J. J., Park, S. W., & Yoo, S. S. (2007). The Value of Outside Directors: Evidence from Corporate Governance Reform in Korea. *Journal of Financial & Quantitative Analysis, 42*(4), 941-962

Chung, K. H., & Pruitt, S. W. (1994). A Simple Approximation of Tobin's Q. *Financial Management, Vol. 23, No. 3, 1994*

Cordeiro, J., He, L., Conyon, M., & Shaw, T. (2013). Informativeness of performance measures and Chinese executive compensation. *Asia Pacific Journal of Management, 30*(4), 1031-1058

Dallas, G. S. (2004). *Governance and Risk: An Analytical Handbook for Investors, Managers, Directors, and Stakeholders*: McGraw-Hill.

Dalton, D. R., Daily, C. M., Ellstrand, A. E., & Johnson, J. L. (1998). Meta-Analytic Reviews of Board Composition, Leadership Structure, and Financial Performance. *Strategic Management Journal, 19*(3), 269-290

Dalton, D. R., Daily, C. M., Johnson, J. L., & Ellstrand, A. E. (1999). Number of Directors and Financial Performance: A Meta-Analysis. *The Academy of Management Journal, 42*(6), 674-686

Davies, J. R., Hillier, D., & McColgan, P. (2005). Ownership structure, managerial behavior and corporate value. *Journal of Corporate Finance, 11*(4), 645-660

De Jonge, A. (2008). *Corporate Governance and China's H-share Market*: Edward Elgar Publishing, Incorporated.

De Veaux, R. D., Velleman, P. F., & Bock, D. E. (2007). *Stats: Data and Models Plus MyStatLab Student Starter Kit*: Pearson Education, Limited.

Deegan, C. (2014). 15 An overview of legitimacy theory as applied within the social and environmental accounting literature. *Sustainability Accounting and Accountability*, 248

DeMott, D. A. (2008). Guests at the Table?: Independent Directors in Family-Influenced Public Companies. *Journal of Corporation Law, 33*(4), 819-863

Ding, S., Jia, C., Wu, Z., & Zhang, X. (2014). Executive political connections and firm performance: Comparative evidence from privately-controlled and state-owned enterprises. *International Review of Financial Analysis, 36*, 153-167

Doidge, C., Andrew Karolyi, G., & Stulz, R. M. (2007). Why do countries matter so much for corporate governance? *Journal of Financial Economics, 86*(1), 1-39

Dong-Sung, C., & Kim, J. (2007). Outside Directors, Ownership Structure and Firm Profitability in Korea. *Corporate Governance: An International Review, 15*(2), 239-250

Dougherty, C. (2011). *Introduction to Econometrics*: OUP Oxford.

Duchin, R., Matsusaka, J. G., & Ozbas, O. (2010). When are outside directors effective? *Journal of Financial Economics, 96*(2), 195-214

Dulewicz, V., & Herbert, P. (2004). Does the Composition and Practice of Boards of Directors Bear Any Relationship to the Performance of their Companies? *Corporate Governance: An International Review, 12*(3), 263-280

Eisenberg, T., Sundgren, S., & Wells, M. T. (1998). Larger board size and decreasing firm value in small firms. *Journal of Financial Economics, 48*(1), 35-54

Elliott, B., & Elliott, J. (2010). *Financial Accounting and Reporting*: Pearson Education, Limited.

Erkens, D. H., Hung, M., & Matos, P. (2012). Corporate governance in the 2007–2008 financial crisis: Evidence from financial institutions worldwide. *Journal of*

Corporate Finance, 18(2), 389-411

Fama, E. F., & Jensen, M. C. (1983). Separation of ownership and control. *Journal of law and economics*, 301-325

Farrar, J. H. (2003). *Comparative Corporate Governance*: Bond University Press.

Finegold, D., Benson, G. S., & Hecht, D. (2007). Corporate Boards and Company Performance: review of research in light of recent reforms. *Corporate Governance: An International Review, 15*(5), 865-878

Freeman, R. E. (2010). *Strategic Management: A Stakeholder Approach*: Cambridge University Press.

Gapenski, L. C. (1996). Using MVA and EVA to measure financial performance. *hfm (Healthcare Financial Management), 50*(3), 56

Gordon, J. N. (2008). The Rise of Independent Directors. *Directorship, 34*(1), 58-63

Greenbury_Report, T. (1995). Directors' Remuneration, Report of study group charied by Sir Richard Greenbury. Retrieved from http://www.jbs.cam.ac.uk/cadbury/report/index.html

Greene, W. H. (2003). *Econometric analysis* (Vol. 5): Prentice hall.

Groebner, D. F. (2013). *Business Statistics: A Decision-Making Approach*: Pearson Education, Limited.

Guthrie, J., Petty, R., & Ricceri, F. (2006). The voluntary reporting of intellectual capital: Comparing evidence from Hong Kong and Australia. *Journal of Intellectual Capital, 7*(2), 254

Hampel_Report, T. (1998). Hampel Committee, Final Report (January 1998). Retrieved from http://www.jbs.cam.ac.uk/cadbury/report/index.html

Hermalin, B. E., & Weisbach, M. S. (2003). Boards of Directors as an Endogenously Determined Institution: A Survey of the Economic Literature. *Economic Policy Review, Vol. 9, No. 1, April 2003*

Hermalin, B. E. W. M. S. (1991). The Effects of Board Composition and Direct Incentives on Firm Performance. *FM: The Journal of the Financial Management Association, 20*(4), 101-112

Higgs_Report, T. (2003). Review of the Role and Effectiveness of Non-Executive Directors Retrieved from http://www.jbs.cam.ac.uk/cadbury/report/index.html

Hill, R. C., Griffiths, W. E., & Lim, G. C. (2010). *Principles of Econometrics, 4th Edition*: John Wiley & Sons.

Hillman, A. J., & Dalziel, T. (2003). Boards of directors and firm performance: integrating agency and resource dependence perspectives. *Academy of Management Review, 28*(3), 383-396

HKEX. (2013a). About GEM, Growth Enterprize Market web site. Retrieved from http://www.hkgem.com/aboutgem/e_default.htm?ref=2%3A

HKEX. (2013b). Listing Rules (Main Board) updated 1 Jan 2013. *HKEX website*

Ho, S. S. M., & Wong, K. S. (2001). A study of the relationship between corporate governace structures and the extent of voluntary disclosure. *Journal of International Accounting, Auditing & Taxation, 10*(2), 139

Hsiao, C. (2003). *Analysis of Panel Data*: Cambridge University Press.

Hsu-Huei, H., Paochung, H., Haider, A. K., & Yun-Lin, Y. (2008). Does the Appointment of an Outside Director Increase Firm Value? Evidence from Taiwan. *Emerging Markets Finance & Trade, 44*(3), 66-80

Huse, M. (2005). Accountability and Creating Accountability: a Framework for Exploring Behavioural Perspectives of Corporate Governance. *British Journal of Management, 16*, S65-S79

Jackling, B., & Johl, S. (2009). Board Structure and Firm Performance: Evidence from India's Top Companies. *Corporate Governance: An International Review, 17*(4), 492-509

Jaggi, B., Leung, S., & Gul, F. (2009). Family control, board independence and earnings management: Evidence based on Hong Kong firms. *Journal of Accounting and Public Policy, 28*(4), 281-300

Jensen, M. C. (2001). Value Maximization, Stakeholder Theory, and the Corporate Objective Function. *Journal of Applied Corporate Finance*

Jensen, M. C., & Meckling, W. H. (1976). *Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure*: SSRN.

Kang, Y., Shi, L., & Brown, E. D. (2008). *Chinese corporate governance: history and institutional framework* (Vol. 618): Rand Corporation.

Kirkpatrick, G. (2009). Corporate Governance Lessons from the Financial Crisis. *OECD Journal: Financial Market Trends, 2009*(1), 61-87

Klein, A. (1998). Firm performance and board committee structure. *Journal of Law &*

Economics, 41(1), 275-303

Klein, A. (2002). Audit committee, board of director characteristics, and earnings management. *Journal of Accounting & Economics, 33*(3), 375-400

La Porta, R., Lopez-De-Silanes, F., & Shleifer, A. (1999). Corporate Ownership Around the World. *The Journal of Finance, 54*(2), 471-517

Lei, A. C., & Song, F. M. (2012). Board structure, corporate governance and firm value: evidence from Hong Kong. *Applied financial economics, 22*(15), 1289-1303

Leung, S., Srinidhi, B., & Lobo, G. (2012). Family control and idiosyncratic volatility: Evidence from listed firms in Hong Kong. *Journal of Contemporary Accounting & Economics, 8*(1), 39-52

Liao, C. (2009). *The Governance Structures of Chinese Firms: Innovation, Competitiveness, and Growth in a Dual Economy*: Springer.

Lim, S., Matolcsy, Z., & Chow, D. (2007). The association between board composition and different types of voluntary disclosure. *European Accounting Review, 16*(3), 555-583

Liu, L., Ramiah, V., & Naughton, T. (2001). Do corporate governance mechanisms affect the value of cross-listed firms?

Liu, W., Yang, H., & Zhang, G. (2012). Does family business excel in firm performance? An institution-based view. *Asia Pacific Journal of Management, 29*(4), 965-987

Ma, S. (2010). *Shareholding System Reform in China: Privatizing by Groping for Stones*: Edward Elgar Publishing, Incorporated.

Majumdar, S. (1997). The Impact of Size and Age on Firm-Level Performance: Some

Evidence from India. *Review of Industrial Organization, 12*(2), 231-241

Margaritis, D., & Psillaki, M. (2010). Capital structure, equity ownership and firm performance. *Journal of Banking & Finance, 34*(3), 621-632

Mendoza, J. M. (2008). Securities regulation in low-tier listing venues: the rise of the alternative investment market. *Fordham J. Corp. & Fin. L., 13*, 257

Mike, W. P. (2004). Outside directors and firm performance during institutional transitions. *Strategic Management Journal, 25*(5), 453

Miller, D., Le Breton-Miller, I., Lester, R. H., & Cannella Jr, A. A. (2007). Are family firms really superior performers? *Journal of Corporate Finance, 13*(5), 829-858

Mishkin, F. S. (2009). *The Economics of Money, Banking, and Financial Markets*: Addison-Wesley.

Mitton, T. (2002). A cross-firm analysis of the impact of corporate governance on the East Asian financial crisis. *Journal of Financial Economics, 64*(2), 215-241

Mura, R. (2007). Firm Performance: Do Non-Executive Directors Have Minds of their Own? Evidence from UK Panel Data. *Financial Management (Blackwell Publishing Limited), 36*(3), 81-112

Nada, K.-K., Andrew, K. K., & Alexander, K. (2001). Board governance and company performance: any correlations? *Corporate Governance, 1*(1), 24

Nicholson, G. J., & Kiel, G. C. (2007). Can Directors Impact Performance? A case-based test of three theories of corporate governance. *Corporate Governance: An International Review, 15*(4), 585-608

Nordberg, D. (2010). *Corporate Governance, Principles and Issues*: Sage publishing.

O'Boyle Jr, E. H., Pollack, J. M., & Rutherford, M. W. (2012). Exploring the relation between family involvement and firms' financial performance: A meta-analysis of main and moderator effects. *Journal of Business Venturing, 27*(1), 1-18

OCED. (2011). *Corporate Governance of Listed Companies in China Self-Assessment by the China Securities Regulatory Commission: Self-Assessment by the China Securities Regulatory Commission*: OECD Publishing.

Palepu, K., Healey, P., Bernard, V., & Peek, E. (2007). *Business Analysis and Valuation, IFRS edition*: Thomson

Palepu, K. G., Healey, P. M., Bernard, V. L., & Peek, E. (2007). *Business Analysis and Valuation, IFRS edition*: Thomson.

Park, H. M. (2011). Practical Guides To Panel Data Modeling: A Step-by-step Analysis Using Stata. *Graduate School of International Relations, International University of Japan*

Patelli, L., & Prencipe, A. (2007). The Relationship between Voluntary Disclosure and Independent Directors in the Presence of a Dominant Shareholder. *European Accounting Review, 16*(1), 5-33

Petty, R., & Cuganesan, S. (2005). Voluntary disclosure of intellectual capital by Hong Kong companies: examining size, industry and growth effects over time. *Australian Accounting Review, 15*(2), 40

Petty, R., M., Cuganesan, S., Nigel, F., & Guy, F. (2007). Challenges for firms in disclosing the value of their intellectual capital. *Allied Academies International Conference. Academy of Accounting and Financial Studies. Proceedings, 12*(1), 63

Rabe-Hesketh, S., & Skrondal, A. (2008). *Multilevel and Longitudinal Modeling Using Stata, Second Edition*: Stata Press.

Rabe-Hesketh, S., & Skrondal, A. (2012). *Multilevel and Longitudinal Modeling Using Stata: Continuous Responses, Third Edition*: Stata Press.

Reyna, O. T.-. (2007). Panel data analysis, Fixed & Random Effects [online]

Rowe, W. G., & J. L. Morrow, J. (1999). A note on the dimensionality of the firm financial performance construct using accounting, market, and subjective measures. *Revue Canadienne des Sciences de l'Administration, 16*(1), 58

Schulze, W. S., Lubatkin, M. H., Dino, R. N., & Buchholtz, A. K. (2001). Agency Relationships in Family Firms: Theory and Evidence. *Organization Science*, 99-116

Smith, B. F., & Amoako-Adu, B. (1999). Management succession and financial performance of family controlled firms. *Journal of Corporate Finance, 5*(4), 341-368

Sørensen, J. B. (2002). The strength of corporate culture and the reliability of firm performance. *Administrative Science Quarterly, 47*(1), 70-91

StataCorp, L. (2013). Stata multilevel mixed-effects reference manual.

Sun, W., Stewart, J., & Pollard, D. (2011). *Corporate Governance and the Global Financial Crisis: International Perspectives*: Cambridge University Press.

Tang, J., & Linowski, D. (2011). Corporate Governance at the Chinese Stock Market: How It Evolved *Corporate Governance and Business Ethics* (pp. 107-155): Springer.

Tenev, S., Zhang, C., & Brefort, L. (2002). Corporate Governance and Enterprise Reform in China: Building the Institutions of Modern Markets. *The World Bank and the*

International Finance Corporation

Tobin, J. (1969). A general equilibrium approach to monetary theory. *Journal of money, credit and banking, 1*(1), 15-29

Tricker, B. (2012). *Corporate Governance: Principles, Policies and Practices*: Oxford University Press.

Van den Berghe, L. A. A., & Levrau, A. (2004). Evaluating Boards of Directors: what constitutes a good corporate board? *Corporate Governance: An International Review, 12*(4), 461-478

Wang, H., & Choi, J. (2013). A New Look at the Corporate Social–Financial Performance Relationship: The Moderating Roles of Temporal and Interdomain Consistency in Corporate Social Performance. *Journal of Management, 39*(2), 416-441

Wernerfelt, B., & Montgomery, C. A. (1988). Tobin's q and the Importance of Focus in Firm Performance. *American Economic Review, 78*(1), 246

Wooldridge, J. M. (2010). *Econometric Analysis of Cross Section and Panel Data*: MIT Press.

Xiao, J. Z., Dahya, J., & Lin, Z. (2004). A Grounded Theory Exposition of the Role of the Supervisory Board in China*. *British Journal of Management, 15*(1), 39-55

Yermack, D. (1996). Higher market valuation of companies with a small board of directors. *Journal of Financial Economics, 40*(2), 185-211

Young, C.-S., Tsai, L.-C., & Hsieh, P.-G. (2008). Voluntary Appointment of Independent Directors in Taiwan: Motives and Consequences. *Journal of Business Finance & Accounting, 35*(9/10), 1103-1137