



**An Empirical Study on Multiple Corporate Directorships  
in New Zealand: A New Interpretation of  
Selected Governance Theories**

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## **DECLARATION OF SOURCES**

I hereby confirm that the work presented in this thesis is my own, is original, and has been carried out at the School of Accounting and Commercial Law, Victoria University of Wellington, during my candidature as a PhD student. I declare that the material of this thesis has not been submitted either in whole or in part for the award of any other degree or diploma at this or any other university. To the best of my knowledge and belief, it contains no material previously published or written by other persons or institutions except where appropriate reference has been made.

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## ABSTRACT

This thesis contributes to the literature on Multiple Directorships (MDS) by providing new evidence that prestigious MDS are value enhancing relative to non-prestigious MDS for New Zealand listed companies. The recent debate surrounding the reasons for including multiple (busy) directors on the board as well as the diverse conclusions of prior studies on MDS draw attention to the fact that theoretically-informed possibilities of MDS are yet to be explored, especially in a setting where the higher incidence of MDS has been driven by a unique institutional environment. New Zealand is one example of such a setting.

To explore one aspect of these issues, this research first asks whether there are firm ‘performance’ differences between prestigious MDS and non-prestigious MDS. The results of initial tests show that prestigious MDS have a positive influence on performance outcomes for their organizations, while there is a negative or no significant relationship between non-prestigious MDS and firm performance. These results also suggest a one-way causal effect of prestigious MDS on firm performance.

Having determined the better value of prestigious MDS, the subsequent and primary question of this thesis is to explore ‘why’ differences may exist between the two categories of MDS. Three corporate governance theories, namely, Resource Dependence, Agency and Managerial Hegemony are employed to differentiate, and thus to help explain, the sources of prestigious MDS success. The results of the second set of tests reveal that the differences between prestigious and non-prestigious MDS can primarily be explained by firms’ needs for easier acquisition of critical resources, which are often associated with the level of agency conflicts and the presence of powerful CEOs.

Empirical evidence then suggests that prestigious MDS potentially create value for New Zealand companies in terms of facilitating access to critical resources and minimizing agency conflicts as well as CEO influence on board oversight. The findings have potential policy implications, especially in an export-oriented economy with geographic isolation and small scale of population, such as New Zealand. Regulators, for instance, the Financial Markets Authority and Institute of Directors should be mindful of the need to retain expert (prestigious) directors and cautiously evaluate before initiating any new regulation regarding MDS.

**Key Words:** *Prestigious MDS, Non-Prestigious MDS, Firm Performance, NZX Companies, Resource dependence, Agency and Managerial Hegemony.*

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## GLOSSARY AND ABBREVIATIONS

2D	Two Dimensions
3SLS	Three-stage Least Squares
AT	Agency Theory
BTM	Book-to-Market
CDMT	Capital Market Development Taskforce
CG	Corporate Governance
EBIT	Earnings Before Interests and Taxes
FCF	Free Cash Flow
FDI	Foreign Direct Investments
FE	Fixed Effects
FMA	Financial Markets Authority
FMC Act	Financial Markets Conduct Act
FSF	Fonterra Shareholders' Fund Units
FSM	Fonterra Shareholders' Market
GDP	Gross Domestic Product
IDS	Interlocking Directorships
IV	Instrumental Variables
IHS	Inverse Hyperbolic Sine
LR	Listing Rules
MBIE	Ministry of Business, Innovation and Employment
MDS	Multiple Directorships
MHT	Managerial Hegemony Theory
MNC	Multinational Companies
MTB	Market-to-Book
NZ	New Zealand
NZDX	New Zealand Debt Market
NZVCA	New Zealand Private Equity and Venture Capital Association
NZX	New Zealand Exchange
OECD	Organisation for Economic Co-operation and Development
OLS	Ordinary Least Squares
RBNZ	Reserve Bank of New Zealand
R&D	Research and Development
RDT	Resource Dependence Theory
ROA	Return on Assets
ROE	Return on Equity
SE	Standard Error
TAF	Trading among Farmers
UK	United Kingdom
UN	United Nations
USA	United States of America

# CHAPTER ONE

## INTRODUCTION

### 1.1 Introduction

Corporate governance is concerned with allocating resources and responsibilities within and across firms, which in turn affect strategic choices, and ultimately the process of value creation (Aguilera, Florackis, & Kim, 2016). Within the corporate governance framework, the board of directors plays a crucial role in approving management's strategic proposals and decisions by evaluating their consequences for firm value (Adams, Hermalin, & Weisbach, 2010; Fama & Jensen, 1983; Srivastav & Hagendorff, 2016). However, there is no clear consensus as to how individual directors contribute to that process. As such, the qualities of members within the boards are a topic worthy of further research

Because of the increase in complexity of the business environment, the board of directors is required to perform a wide range of roles beyond merely monitoring management to cope with the growing demands of the varying types of investors and stakeholders (McCahery, Vermeulen, & Hisatake, 2013). Consequently, more emphasis is placed on the capabilities of the directors in terms of business knowledge, industry experience and access to the business network for adequately meeting their board responsibilities (McCahery & Vermeulen, 2014; Ringe, 2013). That is, compared to the novice, directors who have business understanding, specialist experience or in-depth knowledge of current industry practices and are relatively familiar with the business environment may be better able to serve the best interests of the organization (Kirkpatrick, 2009; Withers, Hillman, & Cannella, 2012).

In this vein, multiple directorships (MDS), in combination with others, can be one of the reliable indicators of directors' professional experience as well as connectivity with the



external environment (Booth & Deli, 1996; Keys & Li, 2005; Kor & Sundaramurthy, 2009; Li & Ang, 2000). This is because multiple directorships provide directors with the opportunity to experience a wider variety of organisational practices and be better connected to diverse operating environments (Carpenter & Westphal, 2001; Clements, Neill, & Wertheim, 2013; Ferris, Jagannathan, & Pritchard, 2003; Field, Lowry, & Mkrtchyan, 2013; Stuart & Yim, 2010). Accordingly, having multiple directorships is seen as a means of connecting the firm to important information and resource networks as well as bringing in diverse insights to strategic and governance issues and trends of different organizations to the corporate board.

Despite the potential benefits of multiple directorships, there is a concern that multiple directors may be overcommitted because of time fragmentation, which may lead them to be ineffective (Ahn, Jiraporn, & Kim, 2010; Fich & Shivdasani, 2006; Kang, 2014). Based on this, some international bodies recommend placing restrictions on the number of directorships held by a single person (Jiraporn, Davidson, DaDalt, & Ning, 2009a; Jiraporn, Singh, & Lee, 2009b; Kiel & Nicholson, 2006). Although the value of MDS has been questioned around the world, the practice of MDS has increased in recent years as multiple directorships can benefit both the director and the companies that he or she serves. The issue of causes and consequences of multiple directorships, therefore, is still a topic of considerable debate in corporate governance research, and the subject requires further investigation to explore the value of MDS.

## **1.2 Motivation for the Study**

A large body of literature on multiple directorships examines whether multiple directors are beneficial or detrimental for an organisation. These studies examine the effects of MDS based on two opposing perspectives, namely, the Experience (benefits) perspective and the 'Busyness' (costs) perspective. However, findings generated to date have been inconclusive

and contradictory, and neither of these perspectives has produced strong empirical evidence. Hence, the current pertinent concern regarding MDS is ‘whether certain MDS are better or worse.’ This study is primarily motivated by the inconclusive findings of the prior literature on MDS along with the recent debate surrounding whether MDS differ in terms of their perceived quality and status (Gupta, Otley, & Young, 2008).

A more recent stream of research argues that multiple directors acquire benefits at the same time as they become busy because of multiple appointments. This suggests that an ‘experience’ effect and a ‘busyness’ effect are not mutually exclusive, and one may be overshadowed by the other depending on certain characteristics of MDS (Clements, Neill, & Wertheim, 2015a, 2015b). Based on this, several studies explore the characteristics of directors’ multiple board appointments that produce more or less benefits than any potential costs that accompany the practice of having multiple directors.

Supporting this argument, a number of studies document that directors who serve on the boards of listed firms (Loderer & Peyer, 2002) or firms in related industries (Clements et al., 2015b) or a larger firm (Clements et al., 2015a) are more effective and hence positively related to a firm’s financial outcomes. This suggests that certain characteristics of appointing firms, such as the listing status, industry relatedness and firm size may influence the level of benefits that directors acquire from serving on multiple boards. These may produce differential value in other firm settings. This implies that some multiple directorships may be more or less beneficial than others (quality of directorships) in terms of directors’ experience and connectivity.

However, these studies have not considered the relative ‘prestige’ of appointing firms to explore the qualitative differences between directorships derived from different categories of firms. Prior research emphasizes the importance of ‘prestige’/ ‘reputation’ of directors as a

signal for their competence (Eminet & Guedri, 2010; Kim & Cannella, 2008). Prior research also suggests that multiple directorships, in particular those derived from prestigious firms can help directors to enhance their reputation by providing relevant experience, power, prestige, compensation, and access to valuable networks (Cashman, Gillan, & Whitby, 2013; Gupta et al., 2008). This draws attention to the fact that the relative ‘prestige’ of appointing firms may matter within the issue of multiple directorships.

This thesis is also motivated by the premise that current findings are mostly based on US firms with a few are from the context of other larger countries, such as the UK and Australia, which may not be relevant in countries with different institutional and market environments. So, for example, little is known about the consequences of MDS in small economies, such as New Zealand (NZ). The institutional environment of New Zealand differs significantly from other developed countries with regard to geographical isolation, small-scale population, ownership concentration, and export-dependent business environment along with a shortage of expert directors. This suggests that the incidence of MDS among New Zealand firms may primarily be driven by the need to develop business networks in order to overcome the problems associated with unusual geographic and social structure as well as to compete in export markets.

In New Zealand, the number of multiple directors (at the individual level) as a percentage of total directors is not very high: a small group of influential directors serves on a higher number (more than three) of boards (Chapman Tripp, 2017; Parker, 2012). This indicates that a small group of expert directors dominates the corporate sector in New Zealand, and those multiple directors have specialized expertise that is needed by New Zealand firms. In addition, this concentrated pattern of MDS within a small number of influential and well-connected directors implies a relatively higher incidence of multiple directorships (MDS) among New Zealand companies (at firm level). Given a limited pool of talented directors in

New Zealand (Bhuiyan & Habib, 2011; Goldfinch, 2004; Roudaki & Bhuiyan, 2015), MDS may occur to meet these complex needs of the firm as well as to retain this small group of talented people. Hence, it is expected that the causes and consequences of MDS in small as well as export-dependent economies, such as New Zealand, are likely to be significantly different from other economies.

Prior studies on New Zealand multiple directorships mostly examine the extent and nature of multiple directorships at the level of individual directors as well as the motivations of this practice (Alexander, Murray, & Houghton, 1994; Firth, 1987; Fox & Hamilton, 1994; Fox & Walker, 2001; Laurent, 1971). However, there is little or no research examining the motivations of appointing multiple directors on the board or whether companies with certain types of multiple directors on their boards are likely to outperform companies that do not appoint such directors. This demonstrates a gap in the literature requiring further investigation to explore the value of multiple board experience within the context of New Zealand.

### **1.3 Research Objectives**

Based on the research gap, this study extends the recent line of prior literature on MDS to explore the differences between MDS, recognizing a set of characteristics of appointing firms that may influence the level of potential benefits and costs derived from MDS. Given the importance of ‘prestige’ (reputation) of directors as highlighted in the ‘director selection’ literature (Eminet & Guedri, 2010; Withers et al., 2012), this study aims to examine the ‘prestige’ related differences between multiple directorships (MDS) within the context of New Zealand. Accordingly, MDS are categorized into two groups: prestigious MDS and non-prestigious MDS based on the ‘relative prestige’ of companies on which the board member serves. Given these two categories of MDS, this study seeks to fill this knowledge gap by

investigating why some firms choose to have prestigious multiple directors, while others have majorities of directors with non-prestigious MDS.

In order to explore these issues, the research first asks:

- (1) Whether there are firm ‘performance’ differences between prestigious MDS and non-prestigious MDS.

The answer to the first research question prompts the subsequent and primary research question of this thesis,

- (2) If there are differences, what explains the differences between prestigious MDS and non-prestigious MDS on a given board?

The answers to these questions may be valuable and interesting for several reasons, which can help to understand the effects of two categories of MDS on board performance, leading to better or worse corporate performance. The answers can also shed some light regarding the reasons for the differential impact of the two MDS categories. The causes and consequences of MDS in the context of a small, relatively isolated economy is important because New Zealand companies, like other small nations or states may have unique needs to develop the business network, which can compensate for many problems/requirements associated with the geographical and social structure.

#### **1.4 Research Framework**

The research framework of this study builds on insights from three different, but complementary, governance theories (detail in Chapter 4), which is expected to provide a useful basis to explore ‘why’ the differences between prestigious MDS and non-prestigious MDS may exist. From the perspective of Resource Dependence Theory, boards with higher numbers of prestigious MDS relative to non-prestigious MDS are likely to be better able to

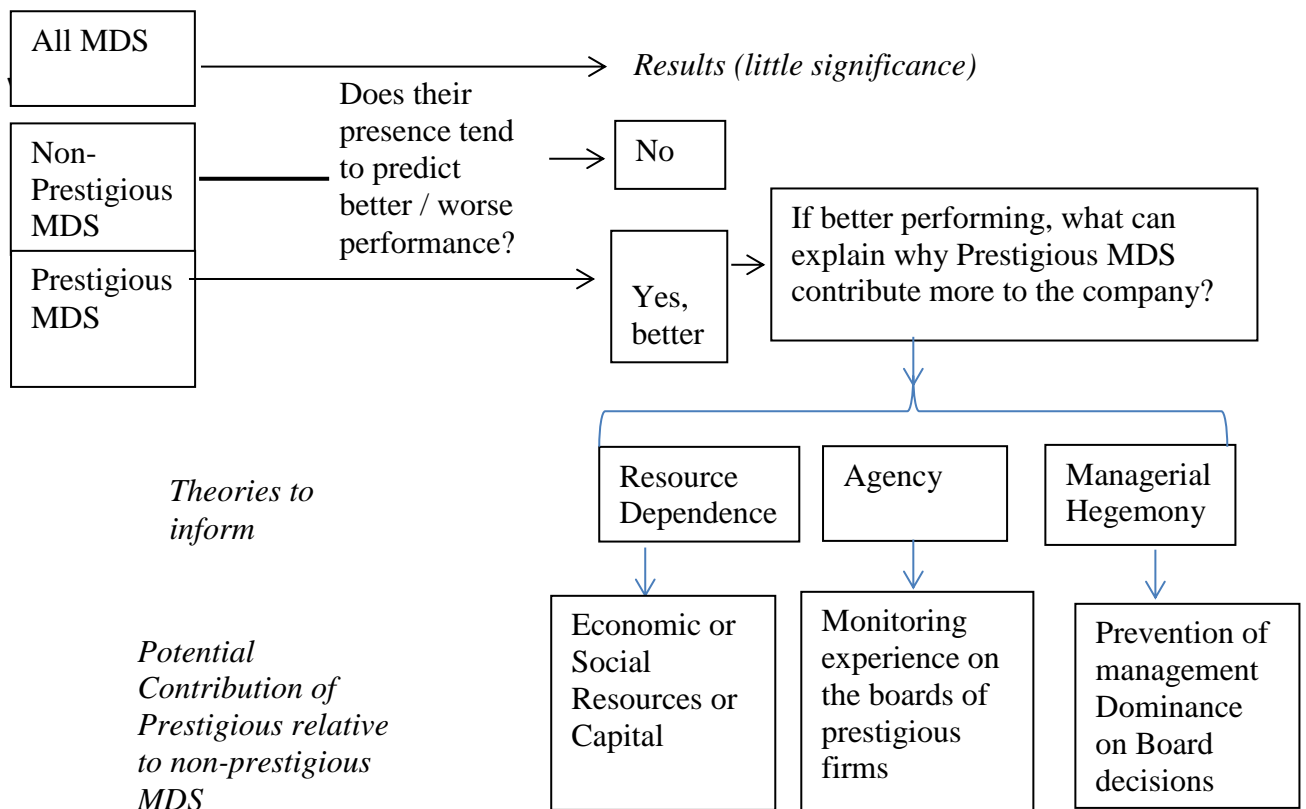
obtain advantageous access to critical resources communities (Barroso-Castro, del Mar Villegas-Periñan, & Casillas-Bueno, 2016; Rivas, 2012; Tian, Haleblan, & Rajagopalan, 2011). This may result in lower transaction costs associated with environmental interdependencies, reduced uncertainty, and potentially better financial outcomes. This also suggests that those firms that experience a higher level of uncertainty in accessing a greater range of resources may benefit from appointing directors who currently serve on the boards of prestigious firms.

Agency Theory suggests that directorships in prestigious firms relative to non-prestigious firms may help directors to develop better monitoring ability by providing in-depth knowledge, skills, experience, and access to required information (Clements et al., 2015a, 2015b; Gupta et al., 2008). Therefore, prestigious MDS can contribute more in performing the board's role of managing agency conflicts, hence may help in producing better financial outcomes. Furthermore, firms with an increased need for monitoring management are likely to appoint more prestigious directors on the board as a mechanism to mitigate agency conflicts.

According to Managerial Hegemony Theory, prestigious directors are unlikely to work as “rubber stamps” to protect their professional reputation (Ferris, Javakhadze, & Liu, 2016; Rubin & Segal, 2017). Given that prestigious directors have more opportunities for future jobs along with the concern for professional reputation, they may not be influenced by the powerful CEOs. This suggests that the presence of directors who currently serve on prestigious boards might be able to minimize the CEO's influence on board oversight, and that may have a positive impact on firm performance. However, prestigious directors are unlikely to be appointed or they might decline the appointment offers in firms having powerful CEOs (Shivdasani & Yermack, 1999; Withers et al., 2012; Zajac & Westphal, 1996).

Taken together, the arguments offered (detail in Chapter 4) related to the two categories of MDS suggest that prestigious MDS relative to non-prestigious MDS may enhance the ability of directors to offer premium monitoring and resource providing services to the governing board. Similarly, prestigious directors are less likely to be influenced by powerful CEOs, hence serve the best interests of the organization. This suggests that the differences between prestigious and non-prestigious MDS on the board are explainable in terms of three theoretical perspectives, as shown in Figure 1.1. This integrated perspective, therefore, is expected to provide a useful basis for examining firm ‘performance’ differences between the two categories (prestigious and non-prestigious) of MDS and to explore ‘why’ these differences may exist.

**Figure 1.1 Research Framework**



## **1.5 Institutional Environment in New Zealand**

The unique demographic and economic conditions, as well as its geographic location, create an institutional environment in New Zealand which is significantly different from other developed countries. Although New Zealand is a small and isolated economy, the stable economic structure makes New Zealand a lucrative destination for international investors. As such, public policies for promoting economic growth are developed in a way that can compensate for problems associated with geographic isolation and small scale of population. In order to do this, a 'social network framework' built on the idea of a close 'trust' based inter-personal network and ties is considered more applicable in New Zealand (McCann, 2003). This suggests that MDS - in particular, those connected to a wider environment (prestigious MDS) - can play an important role in developing inter-firm and inter-personal networks, which may enable better access to the flow of people, capital, trade and ideas between entities across and beyond the borders of the country.

In addition, the public equity market of New Zealand is small by international standards, comparable to those of China and Germany while less than half that of Australia (Rosborough, Reid, & Hunt, 2015). As such, New Zealand's security markets tend to increasingly rely on foreign investors to meet the increased financing needs of export-oriented New Zealand firms (NZ Government, 2013). This implies that capital market policies aim to attract foreign investment by building promising relationships with international markets and supply chains around the world. The practice of MDS, therefore, has a logic that provides the opportunity to connect New Zealand markets with the rest of the world.

Prior studies argue that agency costs are less of an issue because of concentrated ownership among New Zealand firms (Fox, Walker, & Pekmezovic, 2012; Hossain, Prevost, & Rao, 2001; Roudaki & Bhuiyan, 2015). Moreover, capital markets of New Zealand are



increasingly dependent on foreign capital; hence, the corporate governance framework is developed to create a comfortable environment with a minimal regulatory burden to attract foreign investments. Based on these conditions, New Zealand adopts a ‘principle-based’ light-handed corporate governance framework instead of a ‘rule-based’ strict approach. The corporate governance framework of New Zealand is embodied in three levels, known as the ‘three-tiered framework’; it includes a combination of both mandatory and voluntary rules for the corporate governance of listed companies (Blackmore, 2006). The aim is to ensure good governance to protect the international reputation of New Zealand as a trusted place to do business with a lower risk premium (Buchly, 2014).

Adding to this, the statutory requirement of corporate governance framework regarding independent directors and audit committee financial expertise, along with the increased responsibilities of the governing board, exert pressure on the listed companies to appoint directors with specialist experience (Van Peursem & Purcell, 2015). Given the shortage of qualified influential directors in New Zealand, the practice of multiple directorships - in particular directors with prestigious board experience - on the board may enable New Zealand listed companies to comply with the statutory corporate governance requirements, which might not otherwise be possible. Thus, directors with prestigious experience seem to be of high importance to New Zealand firms since they bring valuable expertise and potential networks that could enhance corporate governance.

This suggests that MDS may occur as a policy initiative to meet the demand of New Zealand companies in terms of experience and networks. Perhaps another reason is to retain these expert as well as influential directors in New Zealand by allowing them to serve on multiple boards that may compensate for the lower level of remuneration compared to the international standard (Bradley, 2015; Lin, 2016). This seems evident as a relatively higher incidence of multiple directorships exists among New Zealand companies.

## 1.6 Summary of Empirical Findings

Using data of New Zealand listed companies covering the years from 2005 to 2014, this study aims to explore the ‘prestige’ related differences between multiple directorships by examining two issues<sup>1</sup>. The objectives are to (i) determine whether there are differences between the implications of prestigious MDS and non-prestigious MDS for corporate performance; and (ii) if there are differences, what explains the differences between prestigious MDS and non-prestigious MDS (determinants of the two categories of directorship choices) on a given board? This study employs Ordinary Least Squares (OLS) regression to test the hypotheses, with the observations clustered both by firms and time period.

The findings of the first objective, ‘performance’ differences between prestigious and non-prestigious MDS, reveal that prestigious MDS are associated with better performance outcomes for their organizations. With regard to non-prestigious MDS, firm accounting performance (measured by ROA and ROE) is negatively associated with non-prestigious MDS, suggesting there is no significant relationship between non-prestigious MDS and market performance. The results are robust for both prestigious and non-prestigious MDS for long-term firm performance. Moreover, the results obtained from two-stage Instrumental Variables (IV) regressions as well as regressions including firm fixed effects indicate that the regressions do not have endogeneity bias, suggesting a one-way causal relationship between prestigious MDS and firm performance.

This implies that directors are likely to obtain valuable board experience, useful contacts, quality information and enhanced reputation by serving on the boards of prestigious firms, while directorship experience in a non-prestigious firm is less likely to do so and may unduly occupy the director’s time (Loderer & Peyer, 2002). Hence, prestigious MDS can play

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<sup>1</sup> This study follows a firm-based approach rather than a person-based approach.

an important value-enhancing role to meet the monitoring and resource needs of the firm, which in turn could produce better performance.

The findings of the second research question, the theoretically-informed determinants<sup>2</sup> of two categories of MDS, reveal that the differences between prestigious and non-prestigious MDS can primarily be explained by firms' needs for critical resources. These findings also reveal that prestigious MDS on the board are often associated with the level of agency conflicts and the presence of powerful CEOs.

In particular, the results demonstrate that larger firms and growing firms have a significantly greater likelihood of prestigious MDS on their boards. These results also show that larger firms tend to have smaller numbers of non-prestigious MDS. The findings also indicate that prestigious MDS on the board are associated with a lower level of free cash flow, and highly leveraged firms tend to have fewer prestigious MDS. Finally, the findings suggest that firms tend to have a smaller number or proportion of prestigious MDS in the presence of CEOs with longer tenure.

Overall, the findings suggest that all three theories have some explanatory power in predicting the potential determinants of a firm's choice between prestigious and non-prestigious multiple directorships. In particular, the findings highlight the significant explanatory power of Resource Dependence Theory. The results also exhibit a stronger relationship between these theoretically-informed firm-specific characteristics and prestigious MDS than that with non-prestigious MDS.

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<sup>2</sup> The term 'theoretically-informed' determinants/ firm-specific characteristics is used to indicate that these are selected with reference to three governance theories.

## 1.7 Research Contributions

The empirical findings presented in this thesis contribute to the academic literature on MDS and may have several policy implications.

This research extends the literature on MDS by examining whether ‘performance’ differences exist between MDS, categorizing them into two groups: prestigious MDS and non-prestigious MDS using the New Zealand setting. The empirical results show that prestigious MDS relative to non-prestigious MDS have a positive influence on performance outcomes (both current and future) for their organizations. Furthermore, this study finds that the distinctions between these two categories of MDS are explainable by firms’ needs for easier acquisition of critical resources, which are often associated with the level of agency conflicts and the presence of powerful CEOs. The empirical findings inform the current debate regarding which type of MDS could be value enhancing and potential explanations for the differences between MDS. This suggests that investigating MDS categories could be worthwhile.

Secondly, while prior studies are mostly based on US firms with a few from the context of other larger countries, such as the UK and Australia, this study extends the literature to the context of a small economy, where the incidence of MDS is potentially driven by the unique institutional environment. The empirical findings reveal that the incidence and pattern of MDS among New Zealand firms is different from that of other developed countries. The findings support the argument of McCann (2003) regarding the applicability of the ‘social network’ model in New Zealand, given its unique characteristics, such as small-scale population and geographic-isolation. Multiple directorships have the potential to develop trusted networks that help access to a greater range of resources, which is particularly significant for export-oriented New Zealand firms.

Thirdly, in terms of data, the empirical evidence of this study is based on a unique dataset that has been collected manually from companies listed on the New Zealand Stock Exchange comprised of observations over a ten-year period spanning 2005 to 2014. This provides the most comprehensive pattern of MDS, firm and governance characteristics of New Zealand listed companies over time. Moreover, the measures for MDS are constructed using hand-collected data by identifying the ‘relative prestige’ of appointing companies on which the director serves, which is also unique because prior studies simply count the number or proportion of MDS. In terms of methodology, this study includes a set of diagnostic and consistency tests to address unobserved heterogeneity, omitted variables, endogeneity and reverse causality, which have not been performed in prior New Zealand studies on MDS.

Fourthly, the evidence herein may have implications for firms’ director selection strategies. The findings indicate that prestigious directors are likely to make better contributions to those firms experiencing an increased need for critical resources or a higher level of agency conflicts. However, appointing highly-connected directors may impose unnecessary costs on firms having routine needs for resources or less subject to agency conflicts. The findings suggest that directorship choices of firms could be made according to their need for specific skills of directors; otherwise, MDS structures will be sub-optimal.

Fifthly, the findings may have important policy implications, particularly for smaller economies. Although some studies have raised serious concerns regarding the contribution of multiple (busy) directors on effective board functioning, the findings of this study suggest that some of them (prestigious directors) create value for New Zealand firms. Given the shortage of qualified directors, it is worthwhile keeping them on the boards of New Zealand companies to meet their complex needs to survive in export markets. Furthermore, directors’ fees in New Zealand continue to be significantly lower than those paid in other developed economies, even in Australia (Lin, 2016), hence regulators should be mindful of the need to retain expert

directors and consider carefully before initiating any new regulation regarding MDS. This is because adapting uniform rules or guidelines for board governance of other developed countries might not be applicable to the unique competitive environment of this country.

Finally, this study fills a gap in the corporate governance literature by bringing together the issue of MDS and prestige or reputation of employing firms, which are separately highlighted in the prior literature. Examining these issues in the New Zealand context, this study documents evidence for MDS studies and provides a starting point for the analysis of MDS categories. Although recent corporate governance guidelines of many countries suggest limiting the number of MDS, the findings of this thesis suggest that firms should focus on the relative benefits of different categories of MDS instead of the total numbers. The results, therefore, suggest that firms can structure MDS so as to obtain beneficial effects on firm outcomes.

## **1.8 Thesis Outline**

This thesis proceeds as follows: Chapter 2 provides an overview of the institutional environment of New Zealand. Chapter 3 reviews the relevant existing literature on MDS that underlies the research framework and hypotheses. Chapter 4 presents the research framework and develops hypotheses for empirical testing. Chapter 5 outlines the research method and design employed in this thesis. Chapter 6 explains the results of empirical analysis undertaken in this thesis. Chapter 7 concludes this study by outlining the research contribution and implications, limitations and suggestions for future research.

## **CHAPTER TWO**

### **INSTITUTIONAL CONTEXT**

#### **2.1 Introduction**

Although there is no specific regulation and guideline mandating Multiple Directorships (MDS) in New Zealand (NZ), the unique institutional environment may indicate the pattern and motivations for MDS among New Zealand firms. Accordingly, this chapter provides an overview of the institutional environment and the rules and legislation surrounding corporate governance and multiple directorships in New Zealand. Firstly, the chapter reviews the key characteristics of the economy as well as the capital markets of New Zealand. Following this, an overview is provided on the corporate governance structure emphasizing the relative importance of MDS on New Zealand boards. The final section summarizes the chapter.

#### **2.2 Business Environment in New Zealand**

New Zealand (Māori: Aotearoa) is an island nation, situated in the south-western Pacific Ocean and the Tasman Sea between Australia and New Zealand (Briney, 2017). Geographically, New Zealand comprises two main adjacent islands, the North and South Islands and 600 small outlying islands (Treasury NZ, 2012). The land area of New Zealand covers 268,000 square kilometres (103,000 square miles), comparable in size to Japan or Britain (Blakeley, Cruickshank, Kidd, & Thompson, 2009). Historically, New Zealand was a colony within the British Empire and later became a British Dominion. There is no specific date when New Zealand gained independence as that came into effect as a result of gradually adopting self-regulation to a greater extent. Nowadays, New Zealand is an independent state within the British Commonwealth, which is based on the Westminster form of government with a democratic parliamentary system. The administration of New Zealand's government is

autonomous even though the British Monarch is the constitutional head of state. The business environment of New Zealand, therefore, reflects the British system of trade and commerce.

New Zealand has a diverse economy which is dominated by the services sector, complemented by a productive agricultural sector and related manufacturing industries (MBIE, 2014). New Zealand is considered one of the most globalized economies: its GDP largely depends on export business especially with Australia, China, the United States, and Japan (exports account for about 30% of GDP). Despite the dominance of dairy, the export mix of New Zealand is becoming more diverse including processed foods, high technology manufacturing, computer services and commercial services. The advanced agricultural technology and sophisticated farming methods of the New Zealand dairy industry which have been developed over 100 years serve as a competitive advantage that may not be easily replicable by competitors (RBNZ, 2014).

The New Zealand economy is relatively small (having a relatively small population as well as small urban centres) compared with other developed economies (such as the UK, the USA and Australia). There are several pros and cons of the New Zealand economy being small. On the one hand, New Zealand firms experience relatively lower levels of domestic competition. On the other hand, the economic productivity of the New Zealand economy is largely influenced by the growth performance in foreign markets that may result in a relatively higher level of foreign competition. Therefore, promoting competitiveness in international markets is the core economic challenge for New Zealand. As such, New Zealand needs to develop strong international connections in order to get access to the flows of people, capital, trade and ideas between countries around the world (Blakeley et al., 2009).

Although New Zealand is one of the most highly urbanised societies in the world (UN, 2014), the three major urban centres of New Zealand (Auckland, Wellington, and Christchurch), are relatively dispersed and small compared to OECD standards. As such, the



arguments of agglomeration economies<sup>3</sup> (urbanisation economies) may be rather pessimistic for New Zealand (McCann, 2003). Because of the absence of either large urban scales or lack of proximity between urban centres, New Zealand may not adopt economic policies in quite the same way as in the UK although New Zealand has many parallels with the UK situation. It would, therefore, be challenging for the New Zealand economy to achieve economies of scale as well as to transfer tacit information across the geography of New Zealand industry (Blakeley et al., 2009). As a result, many value-adding and growth-inducing (high-order) activities tend to move outside of New Zealand, which may be growth-depressing in long run. This suggests that New Zealand requires an effective framework in order to overcome the problems associated with this geographical structure.

New Zealand is located at a great distance from the world's economic heartland (Europe and North America) and also from the economic power houses of Asia. The geographical remoteness of New Zealand increases the transport and communication costs of distance that may make economic integration difficult (McCann, 2003). New Zealand, therefore, is regarded as less well connected to the global economy in terms of the channelling of direct investment, trade and tourism visits (Blakeley et al., 2009). In addition, the proximity of Australia, which has similar institutions and history, as well as the cross-border movement of labour between New Zealand and Australia, make competition intensive for labour and capital.

These unusual geographical, economic and demographic characteristics of the New Zealand economy suggest that it needs an alternative approach (different from other developed countries) to turn these to competitive advantage to enhance economic growth. According to McCann (2003), a 'social network model' which focuses on 'interpersonal connectedness' may

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<sup>3</sup> Agglomeration (Urbanization) economies arise when the size of the city leads to an increase in productivity. Los Angeles exemplifies urbanization economies in that it has no single dominant industry, yet firms benefit from the common resources and large labour pool found in the city (Marshall, 1920).

well fit better with the characteristics of the New Zealand economy. This argument is motivated by several reasons. The small population scale of New Zealand, which is comprised of a highly educated labour force, readily permits the development of trusted personal networks both within and between cities. This is because a greater level of mutual accessibility built on informal personal networks becomes relatively easier in small populations than in a larger population where individuals are mostly anonymous (McCann, 2003). Inter-firm and inter-personal connectivity, therefore, can serve as one of the important means for the transfer of tacit information both within and between the cities of New Zealand at low cost, which may offset the higher cost of not attaining economies of scale. As such, policies and initiatives of New Zealand organizations may be designed to foster such links, and the higher incidence of multiple directorships (MDS) among New Zealand companies would be one of the consequences of this.

Multiple directorships allow directors to develop strong inter-personal as well as inter-firm networks that facilitate access to information and resource networks and transmission of tacit information. Multiple directorships also allow various important forms of communication to occur across as well as beyond the borders of the firm that might not otherwise exist. In addition, directors who serve on the boards of high-profile firms including multinational companies (MNC) may provide access to networks beyond the borders of the country. This suggests that MDS have the potential to develop networks across the country as well as between countries around the world that may reduce the constraint of the New Zealand economy being small and isolated.

### **2.3 New Zealand Capital Markets**

The capital markets of New Zealand play an important role in facilitating the domestic financial system by serving as a mechanism for the channelling of funds between investors and

borrowers (Rosborough et al., 2015, p. 8). In New Zealand, both public and private security markets are engaged in the trading of long-term securities including debt (bonds) securities, equity instruments, managed investment products and derivatives (Jeffrey, 2016). Public markets are operated through an exchange, which is open and visible to all participants, while transactions in private markets often occur via brokers or individual institutions, which may not be observable. Primary markets are engaged with the initial issuance of capital market securities where transactions are completed through a bank or a brokerage firm. Subsequent transactions of securities between investors occur in secondary markets, which operate through an exchange, such as the New Zealand Exchange (NZX), the only registered securities exchange and authorized futures exchange in New Zealand.

The public equity market of NZX has two dimensions: the NZX Main Board (NZSX) is the original equity market where shares in New Zealand's best-known brands and companies can be bought and sold. The second dimension is NXT in which smaller, growth-focused businesses are listed and shares of these companies are traded. The purpose of NXT is to provide the benefits of public markets to small and medium sized companies of New Zealand with low compliance costs. The public equity market of New Zealand is small by international standards with a stock market capitalization of 40 percent of GDP which is comparable to that of China and Germany while less than half that of Australia (RBNZ, 2014). In New Zealand, the top 10 companies on the share market represent 54 percent of the value of the NZX 50, of which the top two companies' market share is 18 percent of the overall index, making up a third of this alone (Rosborough et al., 2015). This suggests that New Zealand's capital markets generally work well; however, there is still scope for improvements that may provide the full benefits of public equity markets for New Zealanders.

Smaller non-listed firms (those not publicly traded on the NZX), rather than using public market issuance, may acquire financing (capital) elsewhere to avoid the pressure of regulatory and accounting requirements. There are wide-ranging sources of private funding, including family, friends and other small investors, high net worth individuals, institutional investors and venture capital networks (NZVCA, 2014). As the transactions occur informally in private markets, it is difficult to quantify their size compared to their public counterparts. Anecdotally, however, it is recognized that private equity markets play an important role in promoting the growth and functioning of small-to-medium New Zealand firms (CMDT, 2009). In order to encourage efficient private capital markets, the Financial Market Conduct Bill recommends that SMEs to raise capital from experienced investors; this is to ensure that investment decisions are informed and capital flows to productive decisions to promote economic growth.

In New Zealand, primary bond market issues occur via competitive tender or syndication while the public debt market is operated through the NZX Debt Market (NZDX). NZDX is designed to promote and develop the existing debt facilities by offering a range of fixed income securities including corporate and government bonds. New Zealand bonds can be categorized based on the issuers of bonds which include central government, local government, SOEs, financial companies (such as banks, finance companies and insurance companies), and non-financial corporates. Moreover, there is another category known as ‘Kauri’ bonds is issued by non-resident entities into the New Zealand market (Reid, 2014). Traditionally, the government is a major capital (bond) market participant, and government bonds dominate New Zealand’s debt market, followed by the bonds of larger banking institutions, issuing into both the wholesale and retail markets. These include the four largest banks (all rated AA- by Standard and Poor’s), as well as Rabobank New Zealand and Kiwibank, altogether accounting for more than 40 percent of New Zealand’s domestic issuance (Rosborough et al., 2015). Other

large issuers include utility firms (for example, the partly privatized power companies) and well-known corporates such as Fonterra and Auckland International Airport (Vucetich & Watson, 2013). In addition to public markets, private debt markets are also available in New Zealand, and are used by both banks and some non-financial corporates to obtain external financing.

As a part of capital market innovation, in 2010 the NZX launched its Derivatives Market where dairy futures and options products are traded. This market is now the most active dairy futures market globally that provides investors with the tools to manage and gain exposure to New Zealand's capital markets and the global dairy industry (NZX, 2015). Another example of capital market innovation is the new Fonterra Shareholders' Market (FSM), which is designed to address the particular needs of co-operative companies (NZ Government, 2013). Fonterra Co-operative Group, which is one of the world's largest dairy companies (100% NZ owned), chose NZX to operate the Fonterra Shareholders' Market (FSM) by launching Trading Among Farmers (TAF), which has two parts. FSM enables farmer shareholders to trade shares with other farmer shareholders. A separate Fonterra Shareholders' Fund (FSF) is developed to support the FSM and facilitates liquidity by allowing outside investors (who are not allowed to hold shares in Fonterra) to invest in units in the FSF. The FSF is listed on the NZX Main Board, which provides equal economic rights (dividends and other economic benefits) to investors that they would have as Fonterra shareholders.

As New Zealand has low domestic saving relative to investment, perhaps because of small-scale population, capital inflows from other countries are an important supplement to domestic savings (NZ Government, 2013). This suggests that New Zealand security markets as well as businesses increasingly rely on foreign capital. The most effective way to improve capital markets in New Zealand is to create and encourage an environment for international

investment in New Zealand enterprises. The flow of capital between New Zealand and the rest of the world helps New Zealand businesses to access the capital they need to grow, which in turn supports growth in wages, employment and output by linking New Zealand businesses into international markets (NZ Government, 2013). In addition, foreign investors are likely to bring knowledge of international markets and allow access to established networks, which is vital for the growth of an economy with geographical peripherality and low population. With regard to inflow, identified non-residents hold around 39% of government securities and the stock of inward foreign direct investment (FDI) is 47% of GDP, indicating New Zealand's better position in international capital markets (MBIE, 2013). Outward international investment by New Zealand firms, however, is relatively small as a ratio of GDP, reflecting the limitations of New Zealand firms to expand outward direct investments. This suggests a greater level of information sharing and networking between New Zealand and the rest of the world (as suggested by the 'social network model') may promote both inward and outward foreign investments, and any public policy for New Zealand relating to foreign investments needs to accommodate these issues.

Regulation plays an important role in ensuring that capital markets operate efficiently (NZ Government, 2013). Previously, securities markets were regulated by the Securities Commission of New Zealand, which was established under the Securities Act 1978. After the failure of 65 New Zealand finance companies between March 2006 and August 2012, the Securities Commission was replaced by the Financial Markets Authority (FMA). The FMA is the consolidated regulator for the financial sector including securities exchanges, financial advisers and brokers, auditors, trustees and issuers with the responsibilities of enforcing securities, financial reporting and company laws. As an initiative to enhance the quality of financial market regulation, the previous security laws have been replaced by the Financial Markets Conduct Act 2013 (FMC Act). This Act is designed to lift investor confidence in New

Zealand capital markets, while minimizing the costs associated with financial market regulation.

In summary, the New Zealand equity and bond markets have become more diverse and have grown in size and depth. In 2013, the number of companies listed on the NZX was the highest in a decade, and at present the NZX has a total of 304 listed securities with a combined market capitalization of NZ \$ 144.8 billion (NZX, 2017). This may be the result of continuing regulatory and policy initiatives to support New Zealand capital markets. New Zealand's capital market remains small by international standards and the banking system continues to be the primary source of funding for New Zealand firms. The small size of the NZ capital market might simply reflect the small size of the economy.

#### **2.4 Corporate Governance (CG) in New Zealand**

Corporate governance in New Zealand is significantly different from that in other developed countries primarily for two reasons. On the one hand, the corporate sector of New Zealand is comprised of relatively small companies listed on an illiquid stock exchange (Blackmore, 2006; Walker & Fox, 2003). In addition, corporate ownership in New Zealand is characterized by a concentrated rather than diffuse ownership structure (Fox et al., 2012; Hossain et al., 2001; Roudaki & Bhuiyan, 2015). This may cause fewer agency conflicts among listed companies in New Zealand compared to other larger countries. This is because agency conflicts primarily arise in economies with large and widely-held companies and multiple highly liquid stock exchanges (such as in the US). New Zealand listed companies, therefore, are likely to be protected from the scrutiny of corporate control as well as the continuous pressure to promote good corporate governance (Fox et al., 2012; Goldfinch, 2004).

On the other hand, corporate governance has received increased attention from regulators, professionals and academicians in recent years, particularly following the well-

publicised corporate collapses and financial crises around the world. As a result, many jurisdictions have imposed a series of corporate governance regulations or updated their existing corporate governance codes. However, the pressure for the reform of corporate governance regulations in New Zealand was not very high, because the size and frequency of New Zealand failures were not as serious as those reported in larger economies, such as the US, UK and Australia. However, the sub-standard corporate governance practices of New Zealand firms have often been questioned by local and international market participants, particularly after the collapse of many finance companies (Reddy, Locke, Scrimgeour, & Gunasekarage, 2008; Van Peurseem & Chan, 2014).

These together signal the necessity for an urgent initiative to be taken by policy makers to streamline the corporate governance framework of New Zealand. The main concern in developing corporate governance codes for a relatively small economy, such as New Zealand, was to balance two incompatible sets of needs: investors' needs for an appropriate level of information about the issuer's corporate governance practice and corporate needs for minimum compliance costs. To this end, the New Zealand Exchange and the Securities Commission (presently Financial Markets Authority (FMA)) issued a set of corporate governance rules which is formally the *Corporate Governance Best Practice Code of 2003 (NZX Corporate Governance Code)* and a handbook, *Corporate Governance in New Zealand: Principles and Guidelines (FMA Governance Principles)*, in addition to other common laws such as the Companies Act 1993 and the Financial Reporting Act 2013.

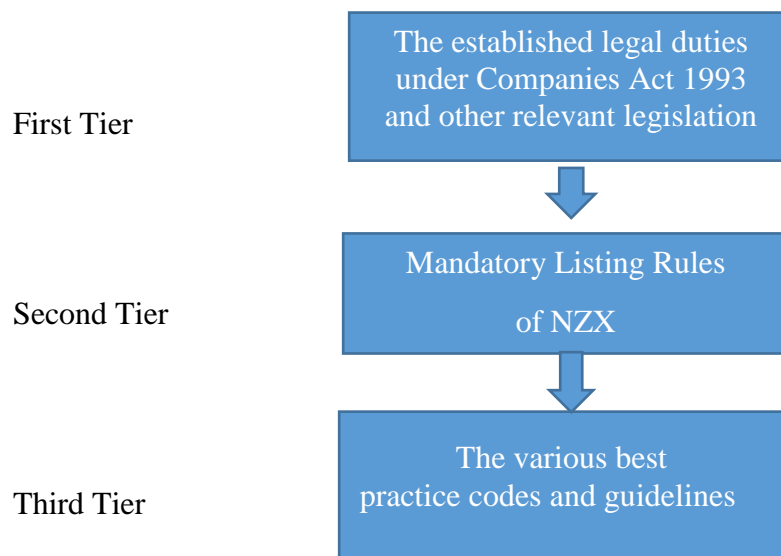
The corporate governance framework of New Zealand follows a principle-based rather than rule-based approach, which is a combination of both mandatory and voluntary rules for the corporate governance of listed companies (Blackmore, 2006; Fox et al., 2012). In order to minimize the pressure faced by firms, the corporate governance framework contains a limited number of prescriptive elements (mandatory requirements), complemented by a set of 'flexible



principles' ('comply or explain'). It is also expected that the market will determine the quality of disclosure, which would be reflected in the share price, which in turn, empowers shareholders to enforce compliance with the corporate governance requirements (Fox et al., 2012).

The corporate governance framework of New Zealand is embodied in three levels, known as the 'three-tiered framework' (Blackmore, 2006). The established legal duties under the Companies Act 1993 and other relevant legislation are considered the central core of New Zealand's corporate governance framework. The second tier is the mandatory rules (Listing Rules (LR)) for companies listed on NZX, and the third level is the various best practice codes and guidelines that have been proposed by the Securities Commission (now the Financial Markets Authority (FMA)). A number of important developments have occurred in both the second and third tiers as a result of recent corporate governance reform in New Zealand, while the central core remains unchanged.

**Figure 2.1 Corporate Governance Framework of New Zealand**



The following subsections outline the Rules (and the *NZX Corporate Governance Code*) of the corporate governance framework of New Zealand in order of the tiers discussed above.

#### **2.4.1 Companies Act 1993**

The Companies Act 1993 outlines the basic legal requirements for operating a company in New Zealand including the core legal duties related to corporate governance. Most importantly, the Companies Act 1993 places boards of directors in a fiduciary position and recognizes duties regarding financial and other reporting and disclosure, solvency matters and reckless trading. The Act assigns to directors the responsibilities as well the power required for managing the business and affairs of a company.

Section 128 (1) and (2) of the Companies Act 1993 explicitly requires:

The business and affairs of a company must be managed by, or under the direction or supervision of, the board of the company; and the board of a company has all the powers necessary for managing, and for directing and supervising the management of, the business and affairs of the company.

In addition, the Companies Act outlines a number of duties/ obligations of the directors: to act in good faith and in the best interests of the company (Section 131); the duty to act and exercise power for a proper purpose (Section 134); the general duty of care - to exercise the care, diligence and skill that a reasonable director would exercise in the same circumstances (Section 137); and disclose their material personal interests and avoid conflicts of interest (Section 142).

The Companies Act 1993 also recognizes two further complementary duties of directors in order to prevent them from misusing company money under Sections 135 and 136, stating that directors are prohibited from carrying on the business of the company in a manner that is

likely to create a substantial risk of serious loss for the company's creditors and from incurring an obligation where the director does not believe at that time on reasonable grounds that the company will be able to perform the obligation when it is required to do so. The Act also emphasizes that the duties of directors are all owed to the company itself rather than to the shareholders, and that directors are required to comply with the Companies Act 1993 and the company's constitution.

The Companies Act 1993 has been amended in 2014, with effect from July 2015, to introduce several new provisions including criminal offences for directors, the requirements for resident directors and requirements for registration and information. The amendments create two new criminal offences for directors: (1) serious breach of a director's duty to act in good faith and in the best interests of the company; and (2) dishonestly allowing an insolvent company to incur debts. Both offences are punishable by up to 5 years imprisonment or a fine of up to NZ \$ 200,000.

The new requirements also introduce a provision regarding resident directors who can serve as a local point of contact to respond to requests from regulatory and enforcement authorities (as discussed in Section 2.5.2). The aim of the new legislation is to address the misuse of New Zealand companies by overseas criminal organizations in order to protect the international reputation of New Zealand as a trusted place to do business with a lower risk premium (Buchly, 2014).

The overall aim of the central core of the corporate governance framework for companies in New Zealand (Companies Act 1993 and related laws) is to make directors legally accountable for their fiduciary duties to their organizations (Reddy et al., 2008). In addition, the NZ government is progressing a range of steps to update the Companies Act to promote a fair, efficient and transparent business environment to accelerate international investment, and the recent amendments to the Companies Act are in line with this government initiative.

## **2.4.2 NZX Listing Rules (LR)**

The NZX Listing Rules (LR) are the second tier of the corporate governance framework of New Zealand after the legal core of the Companies Act 1993 for companies listed on the main board of the NZX. The Listing Rules of NZX contains both ‘mandatory’ requirements and ‘voluntary’ rules. The ‘mandatory’ part is categorised as the second component, and the voluntary part is included in the third tier of the corporate governance framework of New Zealand.

The NZX’s regulatory function is carried out through the Listing Rules, which are the minimum requirements for companies listed on NZX’s various exchanges. The LR set out a number of mandatory requirements for issuers, including obligations to prepare and deliver annual and half-yearly reports to NZX and to make an announcement to the market before the release of each report. In addition, listed entities must disclose price-sensitive information immediately once they become available by means of an announcement to NZX (Continuous Disclosure requirements). Moreover, the LR require listed companies to provide a detailed statement on their corporate governance practices in their annual reports.

Listing Rules 10.4.5(i) requires an issuer to provide NZX with a statement on its corporate governance reporting. The statement must disclose the extent to which the issuer has followed the recommendations set by NZX during the reporting period and be current as at the effective date specified for the purpose of LR 10.4.5.

The Listing Rules also contain a number of mandatory standards related to corporate governance, such as board composition (independent directors) and audit committees (discussed in Section 2.5.2 and 2.5.5.1).

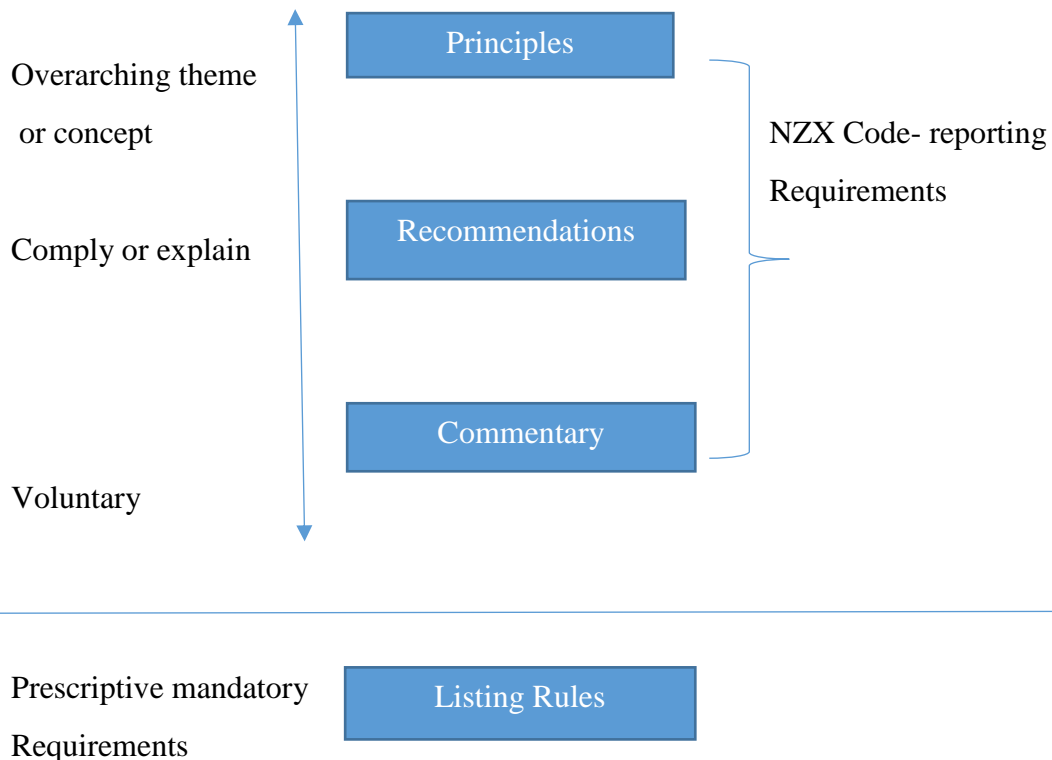
### 2.4.3 Various Best Practice Codes and Guidelines

The third level of the corporate governance framework of New Zealand comprises the various best practice codes and guidelines. Among these, the *NZX Corporate Governance Code* (NZX Code) appears in an appendix to the NZX Listing Rules. In addition, in 2004 the Securities Commission of New Zealand (replaced by the FMA in 2011) issued a definitive statement on best practice for corporate governance, *Corporate Governance in New Zealand: Principles and Guidelines*. In order to help compliance, the *FMA Governance Principles* set out guidelines including examples of the types of corporate governance structure and process appropriate for a broad range of entities that differ in size, activities and ownership structure. Both of these best practice codes were developed in conjunction with other applicable laws such as the Companies Act 1993. This year the *NZX Corporate Governance Code* has been updated with a new code, which will replace the existing code on October 2017. Under the new code, renewed emphasis is placed on a number of issues including board diversity, disclosure on management of health and safety risks as well as non-financial (environmental, social and governance) information and transparency of remuneration.

The *NZX code* is a set of ‘flexible’ principles that recognize differences in organizational size and culture and are applicable to all companies listed on the NZX Main Board that do not fall under an exception in the listing rule (NZX CG Code, 2017). In order to minimize the pressure faced by firms, a part of the *NZX code* is incorporated as Listing Rules (LR) of NZX, which are mandatory for all listed companies to follow (Tier 2). In addition, a more flexible set of principles is outlined in the *NZX code* requiring listed companies to “comply or explain” (‘if not, why not’) the extent to which they have complied with the *NZX Corporate Governance Best Practice Code*.

The diagram below illustrates the hierarchy of the ‘comply or explain’ regime and how each issuer should interpret the principles, recommendations and commentary.

**Figure 2.2: Hierarchy of NZX Corporate Governance Best Practice Code<sup>4</sup>**



Under the NZX Code, if a firm does not adopt any recommendation, it must explain why it has not done so in order to ensure that the market receives an appropriate level of information about the issuer’s governance arrangements. This allows an individual firm (issuer) flexibility to develop/adopt appropriate corporate governance practices as well as not to adopt a recommendation, which is considered inappropriate by the board of an issuer given its circumstances.

In summary, because of the differences in context, a ‘principle-based’ light-handed corporate governance framework instead of a ‘rule-based’ approach has been adopted in New Zealand. This three-tiered corporate governance framework aims to achieve optimal outcomes

<sup>4</sup> Source: NZX Corporate Governance Code 2017

within the context of New Zealand. As agency costs are less of an issue in New Zealand because of concentrated ownership among New Zealand firms, the corporate governance framework may accommodate the alternative demands of New Zealand's business and investment community. For example, New Zealand capital markets are increasingly dependent on foreign capital; it seems that the corporate governance framework has been structured in a way to attract foreign investors by creating a comfortable regulatory environment (Blackmore, 2006). The stated aim of New Zealand's framework is to lift investors' confidence in New Zealand capital markets with minimum regulatory burden. This may be to offset the natural disadvantages of New Zealand capital markets and to promote foreign investment.

As foreign investments depend crucially on strong relationships with international markets and supply chains around the world, the overall corporate governance framework aims to promote foreign investments through development of strong business relationships across as well as beyond the borders of New Zealand. As with all aspects of the New Zealand corporate governance framework, the incidence of MDS among New Zealand corporations presents an opportunity to develop trusted networks that may serve as a competitive advantage by linking New Zealand businesses to foreign markets. This suggests that the corporate governance framework indirectly encourages MDS to represent New Zealand business to target international investors.

## **2.5 Specific Corporate Governance Requirements**

The corporate governance framework sets out a number of provisions for listed companies in New Zealand regarding the size, leadership, and composition of boards and committees. These requirements may have direct or indirect influence on the proportion of MDS in New Zealand boards.

The following subsections outline the requirements for board composition and board committees suggested by the corporate governance framework for listed companies in New Zealand.

### **2.5.1 Board Size**

The requirement regarding board size mandated in Listing Rule 3.3.1 is that there should be a minimum of three directors (other than alternate directors) of an issuer, and at least two directors should ordinarily reside in New Zealand. This is the only NZX requirement regarding board size.

### **2.5.2 Independent and Resident Directors**

Listing Rule 3.3.1 (key mandatory requirements) further states that an issuer's board must have at least two independent directors. Where there are eight or more directors, three or one-third of the total number of directors, whichever is greater, must be independent. The board must determine and disclose which directors are independent. Independent directors are not executives of the issuer and do not have any disqualifying relationships (for example, being a substantial security holder or having recent employment or material business or a contractual relationship with the entity). Moreover, the board needs to be satisfied that the independent director has no other direct or indirect interest or relationship that could reasonably influence their judgment and decision-making as a director. *FMA Governance Principles* further state that the chair should be independent and the board should comprise a majority of non-executive directors.

In addition, new amendments to the Companies Act 1993 (Companies Amendment Bill No. 4) introduce a requirement for every NZ incorporated company to have at least one director who either lives in NZ or in an 'enforcement country' (a country with which NZ has reciprocal



enforcement arrangements) being a director of a company incorporated in that enforcement country.

The statutory requirement regarding the presence of independent directors increases the demand for expert independent directors, for example directors with prestigious experience. Given the supply constraint in NZ, independent qualified directors are more likely to serve on multiple boards. The recent requirement for resident directors also appears likely to influence the incidence of MDS as there would be fewer resident directors than required.

### **2.5.3 Board Leadership**

According to Recommendation 2.8 of the *NZX Corporate Governance Code*, the Chair and CEO should be different people, that is, a director should not simultaneously hold the positions of Chief Executive and Chairman of the Board to avoid a possible conflict of interest. Holding both positions at the same time is known as CEO duality. The *FMA Governance Principles* have expanded on this, noting that only in special circumstances should the roles be combined, for example where an individual has skills, knowledge and experience not otherwise available to the entity (and where these circumstances have been fully explained to investors). In commentary, the *NZX code* encourages issuers to consider having an independent Chair.

The Listing Rules, however, do not preclude an executive who is not the CEO from being a chairperson. Hence, the situation may occur in some New Zealand boards.

### **2.5.4 Diversity on Boards**

Listing Rule 10.4.5 (j) stipulates that an issuer is required to disclose a quantitative breakdown as to the gender composition of its directors and officers in its annual report as at the balance date and including comparative figures for the prior balance date of the issuer. The LR further states that the annual report should contain an evaluation from the board of its performance with respect to its diversity policy (if applicable).

A similar recommendation regarding board diversity has been made in the new *NZX Corporate Governance Code* under Recommendation 2.5:

[A]n issuer should have a written diversity policy which includes requirements for the board or a relevant committee of the board to set measurable objectives for achieving diversity (which at a minimum should address gender diversity) and to assess annually both the objectives and the entity's progress in achieving them.

Moreover, Recommendation 4.2 mentions that the diversity policy (or a summary of it) should be made available on the issuer's website. The board diversity rules of New Zealand primarily highlight gender diversity only; the disclosure requirements, however, do not mention any composition. The finding of prior studies indicate that the numbers of female directors among New Zealand boards are still low and most of the female directors are likely to serve on a single board (Boyle & Ji, 2013; Van Peurseem & Purcell, 2015). This suggests that the requirement for gender diversity has not directly influenced MDS. Nonetheless, the recent recommendations of the *NZX Code* regarding board diversity may lead companies to select directors who have diverse industrial and business experiences, and multiple directors would be more attractive director candidates in order to enhance the diversity of the board of New Zealand companies.

### **2.5.5 Board Committees**

The NZX Listing Rules focus on the audit, remuneration, and nomination committees. While audit committees are required, remuneration and nominations committees are not strictly necessary if a company is constrained by having a small board.

#### **2.5.5.1 Audit Committees**

According to Listing Rule 3.6.1, each issuer must establish an Audit Committee that shall be comprised solely of directors of the issuer, have a minimum of three members and

have a majority of members that are independent directors and at least one of whom must have an accounting or financial background.

Listing Rules 3.6.3 set out the responsibilities of an issuer's audit committee. These responsibilities include ensuring that processes are in place to keep the board properly and regularly informed about significant financial matters; recommending the appointment and removal of the independent auditor; meeting regularly to monitor and review the independent and internal auditing practices; having direct communication with any internal auditors; reviewing financial reports, advising directors on compliance matters; and ensuring the external auditor or lead audit partner is changed at least every five years.

The LR further expands on the detailed requirements of an audit committee. A member of the audit committee will be deemed to have adequate accounting or financial background if he or she is a member of the Institute of Chartered Accountants of New Zealand, has held a CFO position at an issuer for more than twenty-four months, has completed an NZX course for Audit Committee members, and has experience and/or qualifications deemed satisfactory by the board.

In addition, Recommendation 3.1 of the *NZX Corporate Governance Code* states that audit committees should be comprised of only non-executive directors. *FMA Governance Principles* are consistent with the mandatory requirement under LR and *NZX code* and also recommend that the audit committee chair should be independent and not the chair of the board.

The statutory requirement for an audit committee has increased the responsibilities of the governing board. In addition, the requirement that the audit committee to be composed of independent/non-executive directors with financial expertise exerts pressure on listed companies to appoint directors with specialist experience. All these together may influence listed companies to appoint multiple directors with the relevant characteristics/ experience.

### **2.5.5.2 Remuneration Committees**

According to Recommendation 3.3 of the *NZX Corporate Governance Code*, issuers should establish a remuneration committee to recommend to shareholders compensation packages for directors, and to recommend to the board a policy for CEO and senior management remuneration. The code further states that issuers should identify the members of the remuneration committee in their annual report. The commentary expands on that, noting that at least a majority of the remuneration committee should be independent directors, but does not prescribe the composition of the remuneration committee. The Code does not provide any guideline for the process of determining director remuneration and the disclosures that should be made in relation to this process. In this regard, information relating to the performance of directors and efforts to benchmark compensation may also be useful.

### **2.5.5.3 Nomination Committees**

With regard to overall board composition, the Listing Rules require that every NZX company should have formal and transparent methods for the nomination and appointment of directors. According to Recommendation 3.4 of the *NZX Corporate Governance Code*, issuers should establish a nomination committee to recommend director appointments. The code further states that at least a majority of the nomination committee should comprise independent directors and issuers should identify in annual reports the members of the nomination committee.

Both the nomination and remuneration committees should have a written charter that articulates their authority, duties, responsibilities and relationships with the board as a whole. The board as a whole should also regularly review these committees in light of their charters.

In both cases, the *NZX Code* recommends that an issuer may decide not to have a separate remuneration committee or nomination committee. Where an issuer chooses not to have a remuneration or nomination committee, an issuer should explain the alternative

measures in place under the “comply or explain” approach – for example, for these functions to be carried out by the board.

This suggests that the requirements for remuneration and nomination committees, however, do not appear to have directly influenced the number or proportion of MDS on the boards of listed companies.

## **2.6 Multiple Directorships in New Zealand**

The findings of prior studies on MDS among New Zealand companies (see Ch. 3; Section 3.7 for more details) indicate a pattern of 12-21% of all directors serving on the board of more than one company over time since the late 1980s, which indicates that the ratio of multiple directors is not very high. Parker (2012)<sup>5</sup> reports that although the number of multiple directors is not very high as a percentage of all directors in NZ, a small group of influential and well-connected directors (61) serve on three or more boards, with one male director sitting on seven boards. Among them, a list 17 directors are identified from 24 core boards as most influential based on their ranking by the number of directorships that they hold. The report also discloses that this core group of directors includes recently retired CEOs and managing directors of New Zealand’s most established and proven companies and banks. Consistent with this, a recent report by Chapman Tripp (2017) claims that a small number of directors serve as multiple directors in New Zealand: only six directors holding four top 75 directorships, 13 holding three positions and 45 directors serving on two boards, with a small number of directors also having significant board roles. This concentrated pattern of MDS within a small number of influential directors is seen as natural given the small size of NZ’s capital market (Parker, 2012). The pattern of MDS in NZ listed companies implies that multiple directors have specialized expertise that is needed by NZ firms.

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<sup>5</sup> Based on the research findings of McCaffrey, who analysed the directors of 350 NZ organizations.

This pattern of MDS at the level of individual directors (person-based) also reflects the demographics of MDS on NZ boards (firm-based), indicating that NZ companies tend to frequently appoint those expert directors on their boards. This is evident as a relatively higher incidence of multiple directorships (MDS) among NZ companies compared to those of other larger countries, such as the US and Australia (Ahn et al., 2010; Kiel & Nicholson, 2006). In addition, the disclosure on directors' interests in the annual report of NZX companies exhibits significant variations in the number and types of MDS. The variations in the number and types of MDS among NZ boards may be driven by the institutional factors of this small economy.

As discussed in Section 2.2, the export-oriented New Zealand economy is relatively small and located at a great distance from the world's economic heartland. It follows that a 'social network framework' based on the idea of close 'trust' based inter-personal network and ties is more applicable in New Zealand and can often compensate for many problems associated with geographical and social structure (McCann, 2003). The key policy objective of New Zealand, therefore, is directed towards developing strong inter-firm and inter-personal networks within trade and investments to make New Zealand a globally connected economy in order to overcome these constraints and to promote export business (Van Peurseem & Purcell, 2015). Multiple directorships (MDS) among NZ companies, therefore, would be in line with this objective to facilitate access to information and resource networks and transmission of tacit information.

At the same time, the NZ business environment is comparatively close enough that it provides the opportunity to develop familiarity between people in the same (or similar) professions, and hence the possibility of professional networking is higher than in the USA and the UK (Roudaki & Bhuiyan, 2015). In addition, the small population scale of New Zealand readily permits a greater level of mutual accessibility between firms in NZ. Moreover, old school ties in a small country may help link people from same background (Walt & Ingley,

2003). It is, therefore, relatively easy to develop and maintain the types of trust relations both within and between cities. This is evident in the practice of MDS in NZ.

From the perspective of demand, the shortage of qualified directors in the NZ market is explicitly recognized by the *FMA Governance Principles and Guidelines*:

[T]here may be practical constraints in New Zealand if too high a level of formal independence is required of boards. With New Zealand's relatively small pool of qualified and experienced directors, there is a risk that seeking independence at the cost of all else will lead to missed opportunities<sup>6</sup>.

This suggests that the managerial labour market in New Zealand, which has been characterized by the lack of qualified independent directors, is different from other countries (Bhuiyan & Habib, 2011; Goldfinch, 2004). New Zealand firms are likely to experience difficulty in obtaining an optimum mix of skills, expertise and linkages in the board because of the availability of a smaller pool of directors (Reddy et al., 2008). In addition, corporate ownership in NZ is characterized by a concentrated ownership structure that results in less pressure to include independent directors on a board (Farrar, 2005). Nonetheless, because of several statutory requirements (Section 2.5.2 and 2.5.5.1) along with of lack of diversity among small pool of qualified directors in New Zealand (Hawarden & Marsland, 2011), qualified professional directors (for example, directors with prestigious experience) are in demand to serve on more than one board. Thus, the practice of multiple directorships on the board may enable NZ listed companies to comply with these requirements, which might not otherwise be possible.

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<sup>6</sup> FMA Corporate Governance Handbook - Principle 2: Board composition and performance - Factors influencing independence (p.13).

The OECD report noted that the recent corporate failure and financial crisis are partly because of directors' lack of understanding of the business, specialist experience in or deep knowledge of current industry practices (Kirkpatrick, 2009). This suggests that serving on multiple boards would be indeed helpful for non-executive directors to bring diverse insights to strategic and governance issues and trends of different organizations (Carpenter & Westphal, 2001; Kor & Sundaramurthy, 2009). At the same time, there is a growing concern regarding the time commitment of directors in order to adequately meet their responsibilities. With the increasing complexity of the business environment, directors need to spend quality time to understand the company's business and the environment instead of simply reading the board papers (Harris & Shimizu, 2004).

These increased expectations on directors are likely to influence two matters: a significant lift in director's fees and a limit on the number of directorships of an individual director at a given point of time. On the one hand, although the issue of increasing directors' fees has received considerable attention, directors' fees in NZ continue to be significantly lower than those paid in other developed economies, even in Australia (Lin, 2016). On the other hand, no such restriction has yet been placed on the number of directorships held by an individual director in NZ. These factors, together with the scarcity of qualified directors, indicate that MDS may occur to meet the growing demand of NZ companies in terms of experience and networks as well as a policy initiative to retain these expert directors in NZ allowing them to serve on multiple boards that may compensate for the lower level of remuneration.

In order to ensure transparency of the practice of MDS, there is a growing concern that directors of listed companies should disclose their relevant interests including directorships in other companies in the annual reports of their employer companies. In line with this, the Companies Act 1993 under section 140(2) explicitly requires NZX listed companies to disclose relevant interests of each director separately in the annual report. For the purpose of this



section, if the company has more than one director, it needs to disclose a separate interest register of the board of directors including: (i) directorships of subsidiary and associated entities; (ii) directorships of other (separate) organizations including position as chairman; (iii) non-directorship positions (Government, community and other involvements) and (iv) shareholdings of directors of different companies. This disclosure can help in identifying conflicts of interest between the various duties of the director to different companies as well as between the director's own interests and the company's business. It appears that the existing NZ framework attempts to stimulate a fair and transparent practice of MDS in NZ. Basically, it is this section of the Companies Act requiring the disclosure of detailed information regarding multiple directorships which provides the point of focus of this study and provides a reliable database for this project.

## **2.7 Summary**

This chapter provides the background for this study; which focuses on the institutional environment surrounding multiple directorships; that is, the business environment, capital markets and corporate governance practices in New Zealand.

New Zealand is a small export-oriented economy, which is dominated by the service sector, complemented by a productive agricultural sector and related manufacturing industries. NZ has competitive advantages in the dairy industry in the form of advanced agricultural technology and sophisticated farming methods. Because of national geographic isolation as well as inter-urban geographic isolation, NZ is considered less well connected to the main global economic players. Hence, a 'social network framework' is more applicable to NZ's growth potential, and MDS can play an important role in developing inter-firm and inter-personal networks that may help access to a greater range of resources between entities across and beyond the borders of the country.

The capital markets of New Zealand play an important role in facilitating the domestic financial system; both public and private security markets are engaged in the trading of long-term securities. The public equity market of New Zealand is small by international standards, being comparable to that of China and Germany while less than half that of Australia (Rosborough et al., 2015). As a result, capital inflows from the rest of the world serve as a supplementary source of capital in NZ capital markets to support export-oriented businesses. The practice of MDS, therefore, has a logic that provides the opportunity to connect NZ markets with the rest of the world.

The CG framework of NZ follows a principle-based rather than rule-based approach, and is a combination of both mandatory and voluntary rules for the corporate governance of listed companies. The CG framework of NZ is embodied in three levels, known as the ‘three-tiered framework’. By minimizing the regulatory burden, the overall CG framework may help to promote foreign investment through the development of strong business relationships across as well as beyond the borders of New Zealand. This suggests that the CG framework indirectly encourages MDS to better represent NZ business to the target international investors.

At an individual level, MDS in NZ is concentrated in a small group of expert influential directors; however, MDS is common among NZX listed companies, which show significant variations in number and types. The unique economic and social structure of NZ with concentrated ownership, relaxed monitoring and less pressure on independent directors along with the shortage of qualified directors may explain this pattern of MDS among NZ firms. The next chapter reviews the existing literature on multiple directorships so as to establish reasons for conducting a study on multiple directorships.

## **CHAPTER THREE**

### **LITERATURE REVIEW**

#### **3.1 Introduction**

This study aims to examine the ‘prestige’ related differences between multiple directorships (MDS). Based on the ‘relative prestige’ of companies on which the board member serves, MDS are categorized into two groups: prestigious MDS and non-prestigious MDS. The primary objectives of this thesis are: (i) to determine whether there are differences between the implications of prestigious MDS and non-prestigious MDS for corporate performance, and (ii) if there are differences, what explains the differences between prestigious MDS and non-prestigious MDS on a given board. This study, therefore, relates to and builds on two streams of research. This chapter reviews the relevant existing literature on MDS that underlies the research framework and hypotheses.

The chapter structure is as follows: initially, this chapter introduces interpretations of the term ‘multiple directorships’ so as to inform the study with an accepted understanding of how it is viewed. Section 3.3 demonstrates the points raised in the literature as to the perceived benefits or advantages and the perceived costs or disadvantages of MDS. Section 3.4 reviews studies related to the effects of multiple directorships on various organizational outcomes including firm performance, and Section 3.5 addresses the literature that highlights the quality of MDS to examine their effects on firm outcomes. Section 3.6 investigates research related to the determinants of MDS. Finally, a summary of the chapter is presented. Overall, this chapter reviews the literature so as to establish reasons for conducting a study on multiple directorships.

### 3.2 Multiple Directorships Defined

The term '*Multiple Directorships*' (*MDS*) refers to the practice of corporate directors serving on the boards of multiple corporations at the one point in time. An individual director who serves on multiple boards is known as a *multiple director* (Ahn et al., 2010; Clements et al., 2013; Ferris et al., 2003; Jiraporn, Kim, & Davidson, 2008; Stuart & Yim, 2010). These directors are also called 'professional directors' (Keys & Li, 2005).

When an individual director holds directorships with more than one corporation, a link is automatically created between the organizations, which is referred to as 'interlocking directorships' (*IDS*) (Fich & White, 2003; Mizruchi, 1996). The phenomena of 'multiple directorships' and 'interlocking directorships' occur simultaneously in corporate practice. Although the term 'multiple directorships' (*MDS*) and 'interlocking directorships' (*IDS*) are often used interchangeably (Kiel & Nicholson, 2006) interlocking directorships are a subset of multiple directorships that create links between companies through common or shared directors. The two may also differ in terms of motivations and consequences.

Thus, *MDS* or *IDS* occur on a board when directors serve on more than one board. This suggests that the issues of *MDS* or *IDS* should be discussed with reference to related directors. The focus of this study is *MDS*, which is related to, rather than 'people', the 'number' and 'types' of *MDS* on average held by the board as a whole. Although this study focuses on *MDS*, these two terms ('*MDS*' and 'multiple directors') are often used interchangeably throughout the thesis.

### **3.3 Consequences of MDS**

Prior studies argue the MDS may be a ‘double-edged’ sword, which has both positive and negative consequences (Kaczmarek, Kimino, & Pye, 2014; Kiel & Nicholson, 2006). A number of points are raised in the literature as to the perceived benefits or advantages and the perceived costs or disadvantages of MDS. These two competing consequences of MDS have served as the bases for developing hypotheses in prior studies examining the effects of MDS. The following subsections explain the benefits and disadvantages of MDS.

#### **3.3.1 Benefits of Multiple Directorships**

This section evaluates the perceived benefits of multiple directorships emphasised in the literature. The purpose is to identify the motives of an organization to appoint multiple directors to the board and thus help inform theoretical explanations regarding the selection of MDS (Chapter 4). Multiple directorships can benefit both directors and the companies that they serve. The benefits of multiple directorships to directors are evident in the form of skill and experience (Clements et al., 2013; Ferris et al., 2003; Harris & Shimizu, 2004; Hashim & Rahman, 2011) and access to information, knowledge and networks (Carpenter & Westphal, 2001; Kiel & Nicholson, 2006). An organization can benefit by employing experienced, skilled and well-connected directors on the board, as they are better able to contribute to the functioning of the board. Particulars follow.

##### **3.3.1.1 Useful Contact**

Membership on multiple boards helps directors develop connectivity through professional relationships with other directors, executives and firms (Beckman & Haunschild, 2002; Hillman & Dalziel, 2003; Kor & Sundaramurthy, 2009; Nahapiet & Ghoshal, 1998). Multiple directors potentially acquire useful contacts, which allow them to be known individuals within the wider contracting environment (Booth & Deli, 1996; Ferris et al., 2003;

Kiel & Nicholson, 2006). Prior research argues that the connectivity developed through MDS has the potential to generate social capital in the form of “quick access to timely information, diverse ideas, and critical instrumental, political and emotional resources” (Oh, Labianca, & Chung, 2006, p. 578). Multiple board appointments, therefore, may represent directors’ ‘external social (relational) capital’ allowing them to get access to information and resource networks (Barroso-Castro et al., 2016; Burt, 1992; Hillman & Dalziel, 2003).

It follows that multiple directors are better able to negotiate with more groups and develop advantageous contracting relations with other firms through their external connections (Ferris et al., 2003; Kor & Sundaramurthy, 2009). This in turn helps the firm in obtaining preferential access to critical resources, obtaining legitimacy, and initiating new business relationships that help firms’ growth (Bazerman & Schoorman, 1983; Burt, 1992; Certo, 2003; Field et al., 2013; Kor, 2003; Zahra & Pearce, 1989). Organizations, therefore, through multiple directorships have the potential to manage their resource environment by minimizing their dependence on other organizations for required resources and cooperation.

### **3.3.1.2 Professional Experience**

Multiple directorships have long been acknowledged as a means of bringing in contemporary knowledge and information regarding business to the corporate board (Booth & Deli, 1996; Mace, 1986). Fama (1980) and Fama and Jensen (1983) argue that multiple directorships signal quality/competence of directors in the market for directorships. The reasoning behind this argument is that directors who serve on multiple boards potentially acquire working knowledge as a result of their experience in internal decision making across various industries and regulatory environments (Carter & Lorsch, 2004; Useem, 1986). Multiple directorships, therefore, can act as a training device for directors to develop professional experience on a diverse set of contemporary problems and solutions of strategic

and governance issues faced by different organizations at a particular point of time (Beckman & Haunschild, 2002; Kor & Sundaramurthy, 2009).

Based on this, prior research suggests that directors obtain valuable and easily transferable general human capital from their direct experiences across industry, nations and regimes (Clements et al., 2015a; Keys & Li, 2005; Li & Ang, 2000). Current and past professional experiences of directors as board members and managers help them to provide analytical insights into different strategic and governance issues (Becker, 2009; Carpenter & Westphal, 2001; Nahapiet & Ghoshal, 1998). MDS, can, therefore, be strong indicators of individual directors' capability, and organizations may benefit from employing multiple directors, as they may be better able to minimize agency conflicts as well as offer better advice to management by employing the diverse and valuable knowledge, skill and expertise obtained from multiple boards.

### **3.3.1.3 Channels for Communicating Information**

Multiple board memberships require directors to interact regularly with directors and executives of other firms in board and committee meetings, which may allow them to exchange information across firms and other organizations in the external environment (Carter & Lorsch, 2004; Davis, 1991; Kor & Sundaramurthy, 2009; Pfeffer & Salancik, 1978). Through this frequent communication with other board members, multiple directors can get timely access to a wide variety of ideas about the numerous corporate policy approaches and reliable information regarding contemporary opportunities, threats, competitive conditions, technologies and regulatory changes (Clements et al., 2015a; Haunschild & Beckman, 1998; Kor & Sundaramurthy, 2009). Therefore, multiple directorships can serve as channels of communication and conduits of information between external organizations and the firm (Kiel & Nicholson, 2006).

This suggests that multiple directors can improve relevant information flows and communication between firms and their external environment, which in turn may reduce uncertainty across corporate boundaries in a number of ways including: (1) representing their organizations to the target groups in the environment (Zahra & Pearce, 1989); (2) reducing vertical coordination and scanning costs (Hillman & Dalziel, 2003); (3) providing access to strategic information and contributing to opportunities that may arise therefrom (Pfeffer, 1991); (4) revealing information about the agendas and operation of other firms (Burt, 1992); and (5) facilitating the dissemination of innovations across firms (Beckman & Haunschild, 2002; Kiel & Nicholson, 2006). Thus, the presence of multiple directors may enable important forms of communication to occur across firm boundaries that might not otherwise exist.

#### **3.3.1.4 Certification Abilities/ Reputation**

Multiple directorships may help directors to enhance their reputation by providing more power, prestige, compensation and access to valuable networks (Jiraporn et al., 2009a; Jiraporn et al., 2009b; Levit & Malenko, 2016; Mace, 1986). The experience of a director from multiple boards may signal their competence in terms of better advisory and monitoring ability, which in turn represent their reputation (Fama & Jensen, 1983). Memberships on multiple boards, therefore, can serve as certification of an individual director's competence and experience (Jiraporn et al., 2009a; Vafeas, 1999).

This suggests that multiple directors are reputable individuals within the business environment and that a firm can enhance their reputation by employing them on the board (Bazerman & Schoorman, 1983; Kiel & Nicholson, 2006). In addition, reputable individuals such as multiple directors on the board can be linked to the provision of firm legitimacy (bolstering the public image of the firm) which may work as a prerequisite for developing relationships with key resource providers (Barroso-Castro et al., 2016; Mizruchi, 1996). Prior studies provide empirical evidence that firms experienced better performance (less



underpricing) by employing multiple directors on the board (Hillman & Dalziel, 2003). This suggests that reputable individuals on the board provide confirmation regarding a firm's effective board oversight and expert advisory service (Jiraporn et al., 2009b).

Moreover, prior research suggests that a reputational effect exists in the market for directors. That is, a better (worse) performance of directors in their previous jobs, is likely to be rewarded (penalized) with an increase (decrease) in the number of multiple directorships in subsequent years (Clements et al., 2013; Fama, 1980; Ferris et al., 2016). Thus, multiple directors tend to perform oversight responsibilities at an optimum level to avoid reputational damage. This is because directors have stronger incentives to maintain their standing as expert monitors in the market for future opportunities (Fama, 1980; Fama & Jensen, 1983). Organizations, therefore, may benefit from employing multiple directors as they are likely to perform their duties with due care to uphold their reputations.

### **3.3.2 Costs of Multiple Directorships**

Although multiple directorships help directors in developing experience, connectivity and reputation, there are costs associated with the generation of these. The practice of multiple directorships is likely to provide important expertise, experience, skills, prestige and connections to directors, therefore, an individual may be motivated to accept additional directorships with the objective of maximizing personal perquisites (Jiraporn et al., 2009b). Excessive numbers of directorships, however, could make them overcommitted as an individual director's time and capacity is limited (Ahn et al., 2010; Harris & Shimizu, 2004). This may explain why the more recent literature questions the wisdom of an individual director holding multiple directorships beyond a certain number.

Directors need to carefully study a firm's unique strategic and governance issues to fulfil their professional responsibilities effectively (Harris & Shimizu, 2004). Busy directors,

however, tend to spend less time preparing for each individual board, are frequently absent from board and committee meetings and compromise their professional responsibilities (Fich & Shivdasani, 2006; Shivdasani & Yermack, 1999). In effect, this “shirking” behaviour may adversely affect a board’s functioning, which in turn affects its competitiveness and ability to generate growth (Jiraporn et al., 2009a; Jiraporn et al., 2008; Jiraporn et al., 2009b).

This analysis suggests that despite a number of potential benefits of multiple directorships, they could have negative implications for the organization when used excessively (Oh et al., 2006). Adopting multiple directorships as board practice, therefore, is a ‘critically important’ organizational decision.

### **3.4 Prior Studies on the Effects of MDS**

A large body of literature on multiple directorships (see Appendix B: List of Prior Studies on MDS) examines whether an individual director with multiple directorships is beneficial or detrimental for an organisation. These studies examine the effects of MDS employing the two competing assumptions. Based on these, two opposing perspectives have emerged regarding the effects of MDS, namely, the Experience (Quality) perspective and the Busyness perspective. In addition, another stream of research is based on the assumption that the effects of ‘experience’ or ‘busyness’ of MDS are conditional on certain characteristics of the business environment within which they operate.

Based on this, the following subsections review prior studies on MDS in three categories. The first two sections review studies based on the two competing perspectives, followed by a review of MDS studies with conditional findings.

### 3.4.1 Experience Perspective of MDS

This line of research recognizes the benefits (Section 3.3.1) derived from MDS, which is stated in the literature as experience/ quality / reputational capital/ resource dependence perspective. This perspective argues that directors serving on multiple boards are more experienced and better connected, so potentially add value to the firm (Clements et al., 2013; Ferris et al., 2003; Harris & Shimizu, 2004; Sarkar & Sarkar, 2009). Proponents of the ‘Experience’ perspective argue that MDS signal the expertise (quality) of directors (Fama & Jensen, 1983). It follows that professionally skilled directors are in demand to serve on multiple boards with the expectation that they are experienced and well connected so would be more capable of monitoring management as well as reducing the uncertainty derived from dependence on critical resources.

For example, Harris and Shimizu (2004) examine the contributions of multiple (‘overboarded’) directors upon critical strategic decisions such as corporate acquisitions and find a positive relation between the proportion of multiple directors and abnormal returns. This study concludes that multiple directors are better able to make informed contributions to board decisions by drawing upon their experiences on other boards, and hence are associated with enhanced acquisition performance. Similarly, Sarkar and Sarkar (2009) and Lei and Deng (2014) find a positive association between multiple directorships of independent directors and firm value. In addition, empirical findings of Ferris et al. (2003) and Kiel and Nicholson (2006) indicate that multiple board memberships of directors do not harm firm performance as they find a positive, though statistically insignificant, relationship between MDS and firm performance.

Perry and Peyer (2005) provide empirical evidence that MDS of executives are associated with an enhanced firm value. Adding to this, Masulis and Mobbs (2011) report that

multiple directorships of ‘inside’ directors are positively associated with firm performance and value. These findings are consistent with the view that outside directorships afford opportunities for executive directors to learn diverse management styles and strategies and to develop networks, potentially enhancing shareholder value of his or her primary employer (Booth & Deli, 1996; Carpenter & Fredrickson, 2001; Clements et al., 2013).

These findings support the experience hypothesis: multiple directors are likely to be competent directors as being experienced and well networked, are better able to help firms in monitoring management as well as in developing a strong relationship with the external environment. This suggests that multiple directors are good contributors and are busy for good reasons (Harris & Shimizu, 2004).

Prior research has also addressed another competing perspective – the ‘busyness’ perspective of MDS. The following section reviews those studies.

### **3.4.2 ‘Busyness’ Perspective of MDS**

A line of research is based on the cost (Section 3.3.2) associated with MDS, predicting that directors who serve on multiple boards have limited attention capabilities because of time constraints that may adversely affect their ability to contribute to board decisions. This is known as the ‘busyness’ perspective of MDS. Busy directors, therefore, are likely to be negatively associated with the financial outcomes of a firm (Ahn et al., 2010; Fich & Shivdasani, 2006; Méndez, Pathan, & García, 2015).

Supporting the ‘busyness’ perspective, Fich and Shivdasani (2006) find that firms with busy boards which have a majority of directors with at least three directorships are associated with weak corporate governance and poor performance. Similarly, Ahn et al. (2010) document that the effects of multiple directorships on acquisition performance are non-linear, implying that multiple directorships adversely affect corporate value when the number of directorships

reaches a high threshold. Expanding on this, Cashman, Gillan, and Jun (2012) re-examine the impact of busy directors on firm performance and establish the presence of busyness effects of MDS among US firms.

Two other studies examine directors' performance in terms of their willingness to participate in board and committee related activities when they are serving multiple boards and find that multiple directors are less likely to attend board meetings (Jiraporn et al., 2009a) and hold a lower number of committee memberships (Jiraporn et al., 2009b). This lack of involvement of directors in board or committee level activities may be consequences of the busyness of multiple directors and may have adverse effect on firm outcomes. In addition, empirical evidence of Core, Holthausen, and Larcker (1999), Shivdasani and Yermack (1999) and Hundal (2017) is also consistent with the 'busyness' perspective of MDS.

Some other studies examine the effects of change in the level of multiple directorships of directors on firm value through measuring market reaction. These studies document a positive market reaction of investors to a decrease in the number of directorships or workload (Bar-Hava, Feng, & Lev, 2013) and a negative reaction to an increase in the number of directorships or workload of directors (Falato, Kadyrzhanova, & Lel, 2014). This suggests that investors perceive that directors holding a higher number of directorships stretch their capacity and may not be effective; that is consistent with the 'busyness' perspective of MDS.

Recently, Méndez et al. (2015) examine the effects of multiple directorships of the board and committee members on four board supervisory outcomes: executive remuneration, external audit opinion, audit fees and CEO turnover, using the data of Australian listed companies. The findings of this study indicate that busy directors are associated with poor monitoring outcomes, supporting the 'busyness' perspective of MDS. Using the data of Spanish listed companies, Méndez, García, and Pathan (2017) repeat their previous study and

find mixed evidence that the presence of multiple directors is associated with low executive pay, better quality financial information and a lower possibility of receiving a qualified opinion, results varying between large and small firms.

The studies reviewed above provide empirical support for the ‘busyness’ perspective of MDS, and the findings illustrate the types of negative consequences that may derive from the busyness of directors when serving on an increased number of boards.

### **3.4.3 Conditional Effects of MDS**

Another stream of research argues that ‘experience’ or ‘busyness’ effects of MDS are conditional on certain characteristics of the environment within which they exist, suggesting that the relationship between multiple directorships and firm outcomes is influenced by a number of characteristics of the environment.

For example, Field et al. (2013) find a significant positive relation between multiple directorships and performance of newly public firms, implying that experienced and well-connected directors are better able to meet the initial demands of newly listed public firms.

Chakravarty, Marisetty, and Veeraraghavan (2011) conclude that multiple directorships positively influence the performance of stand-alone firms relative to group-affiliated firms. That suggests that the benefits of having multiple directorships vary according to the level of firm complexity. Alternatively, Cashman et al. (2012) identify firm complexity as an indicator of directors’ busyness.

Chen (2009) provides empirical evidence that the practice of multiple directorships is positively associated with the performance of firms having high growth opportunities, while there is a negative association between multiple directorships and performance of firms experiencing a higher level of agency conflicts. This evidence suggests that multiple

directorships can be sources of beneficial advice that can contribute positively to firms with high growth opportunities, while multiple directors might not be effective in monitoring because of an increased workload, which may negatively affect the performance of firms having a higher level of agency conflict.

Similarly, Lee and Lee (2014), find that firm performance is positively associated with MDS in firms with high external financing needs and those with high advising needs. Clements et al. (2013) investigate the effect of multiple directorships on corporate governance effectiveness and find that multiple directorships positively influence the corporate governance effectiveness of large firms, while having detrimental effects on small firms.

Expanding on this, Chen, Lai, and Chen (2015) examine the effects of directors' busyness at different levels of MDS by developing a three-stage proposition comparing relative advantages and disadvantages of directors' busyness. They find that there is a horizontal S-shaped relation between the number of directorships of an individual director and firm performance: low (learning costs and time) and high (effort constraint) levels of MDS are negatively associated with firm performance, while the relationship is positive at moderate levels of MDS of an individual director.

The studies reviewed above support either the 'busyness' or the 'experience' perspective of MDS. However, findings generated to date have been inconclusive and contradictory, and neither of these theoretical perspectives have produced strong empirical evidence. The conditional findings suggest that multiple directorships can have different implications for firms with different levels of monitoring and advising needs (Chen, 2009). The inconclusive findings might stem from the fact that simply counting the number of board appointments of directors may be insufficient to understand the effects of MDS.

### 3.5 Studies on the Effects of MDS Quality

A more recent stream of research asserts that most of the prior studies examining the effects of MDS consider these two perspectives separately and predict that either the ‘experience’ or the ‘busyness’ hypotheses would be supported by empirical results. These studies argue that multiple directors acquire benefits at the same time as they become busy because of multiple appointments. This suggests that these two effects occur simultaneously, and one may be overshadowed by the other depending on the circumstances (Clements et al., 2015a, 2015b). They also argue that considering the effects of ‘experience’ and ‘busyness’ separately may be misleading and may cause inconclusive findings.

Based on this, several studies explore the characteristics of directors’ multiple board appointments that produce greater benefits than any potential costs associated with the multiple board appointments and vice versa. This implies that some multiple directorships may be more or less beneficial than others (quality of directorships) in terms of directors’ experience and connectivity.

Supporting this argument, a number of studies document that directors who serve on the boards of high-profile firms are more effective and hence positively related to a firm’s financial outcomes. For example, Loderer and Peyer (2002) find that MDS of listed companies are positively associated with firm performance, while MDS of non-listed firms negatively influence corporate performance. This evidence suggests that board memberships in listed firms may provide directors with extensive experience in running large firms, better monitoring skills and more useful business contacts and, hence may produce value to other firm settings. In contrast, directorships in non-listed firms may increase directors ‘busyness’ without providing additional benefits.



Moreover, Certo (2003) and Certo, Covin, Daily, and Dalton (2001) find that firms having a higher number of prestigious directors experience better performance (less underpricing) at their initial public offering, suggesting that the prestige of directors can enhance the credibility and performance of the firm they serve.

Adding to this, Clements et al. (2015a) find a significant positive relationship between MDS experience of larger firms with corporate effectiveness and this effect is stronger for small companies than large companies. They conclude that business experience of directors obtained from serving larger and more complex firms is potentially useful to the performance of their governance duties and can provide increased benefits to other companies.

Expanding on this, Clements et al. (2015b) find that multiple directorships in related (similar) industries are associated with enhanced corporate governance effectiveness. This suggests that a director who serves on the board of another company in a similar industry can learn from the different monitoring techniques and business strategies employed by a company operating in a similar environment. These relevant experiences of directors may produce better value to other companies having similar operating characteristics for which he/she serves as a director.

The above analysis suggests that certain characteristics of appointing firms, such as the listing status (Loderer & Peyer, 2002), the firm's prestige/reputation (Gupta et al., 2008), or industry relatedness (Clements et al., 2015b) and firm size (Clements et al., 2015a), may influence the level of knowledge, skills and connectivity that directors acquire from serving multiple boards. Differences in these benefits of multiple directors may produce differential value (better or worse) in other firm settings for which they serve as directors.

Most of these studies highlight a single characteristic to indicate the qualitative differences between different categories of MDS. There may be other characteristics yet to be

explored that could influence the quality of MDS. Prior research emphasizes the importance of ‘prestige’/ ‘reputation’ of directors as a signal for their competencies (Eminet & Guedri, 2010; Kim & Cannella, 2008). Prior research also suggests that directorships of high-prestige firms help directors to enhance their reputation by providing more power, prestige, compensation and access to valuable networks (Cashman et al., 2013; Gupta et al., 2008). Despite the evidence regarding the importance of relative prestige of directorships, there is little research examining whether the relative prestige of directorships matters within the issue of multiple directorships. The following section reviews the related literature on ‘prestige’/ ‘reputation’ of directors/ directorships.

### **3.5.1 Studies on ‘Prestige’ of Directors**

The extant literature emphasizes the importance of director reputation (prestige). The ‘prestige’ is a part of potential director’s ‘social capital’, which is likely to affect their attractiveness as candidates for potential directorships (Certo, 2003; Kirchmaier & Kollo, 2007; Levit & Malenko, 2016; Withers et al., 2012). Prior research argues that the reputation (prestige) of directors acts as a trustworthy signal for their competencies and behaviour (Clements et al., 2013; Eminet & Guedri, 2010; Fama & Jensen, 1983; Ferris et al., 2003), which in turn shapes their professional behaviour. This means that the promises of reputable (prestigious) directors are trustworthy as they are concerned to protect their reputation (Withers et al., 2012).

More often, ‘reputation’ or ‘prestige’ of directors is primarily built upon their current and past professional experiences and actions in similar positions (Carpenter & Westphal, 2001; Zajac & Westphal, 1996). Fama (1980) and Fama and Jensen (1983) argue that MDS signal directors’ competence to the market for directors, indicating their reputation. Hence, MDS can serve as one of the important selection criteria of director candidates. They also

suggest that ‘reputational effect’ exists in the market, which tends to affect the professional behaviour of directors. The market for directorships, therefore, motivates directors to develop their reputation as expert directors to gain more board seats.

Given that, director candidates might hold MDS of different organizations: some are from high profile companies, while others may be from small-family firms. This prompts the question ‘whether any specific MDS signal a higher level of competence or reputation of directors?’ Based on this, Gupta et al. (2008) contend that directorships vary in terms of their quality and document evidence that executives performing better in their own firm are rewarded with directorships of prestigious firms in following years. This implies that directors of prestigious firms are likely to be competent and reputable directors. Hence, MDS of prestigious firms relative to non-prestigious firms may signal enhanced ‘reputation’ or ‘prestige’ of directors. That is, the ‘relative prestige’ of appointing firms can be one of the key characteristics that indicates differences between multiple directorships as well as individuals holding MDS (multiple directors). This provides a starting point for further analysis by categorizing MDS based on the ‘relative prestige’ of appointing firms.

### **3.6 Studies on Determinants of Multiple Directorships**

There are two streams of research investigating the determinants of MDS. On the one hand, a number of studies examine the determinants of MDS (the number of directorships of individual directors) following the arguments of Fama and Jensen (1983) regarding the ‘reputational effect’ in the efficient market for directorships. They argue that directors of successful firms are recognized as high quality directors in the market for directorships and these directors are likely to receive multiple board appointments in subsequent years as the incentive to carry out their duties effectively (Fama, 1980; Fama & Jensen, 1983; Mace, 1986). Based on this argument, a number of studies document that there is strong correlation between

previous firm performance and the number of outside directorships held by individual directors (Ferris et al., 2003; Gilson, 1990; Kaplan & Reishus, 1990; Vafeas, 1999). Expanding on this, Gupta et al. (2008) show that directors and executives of well performing firms are rewarded with directorships in high profile companies in subsequent years. Previous firm performance, therefore, is one of the key determinants of the number as well the quality of directorships held by individual directors.

Adding to this, Booth and Deli (1996) investigate the factors affecting the number of outside directorships held by CEOs and show that the number of MDS held by CEOs is driven by the nature of their firms, for example, CEOs of growing firms tend to hold lower numbers of MDS. This suggests that CEOs of growing firms are less likely to manage time for other responsibilities, and it would be costly if they are away from the firm. They also find that CEO interlocks, CEO tenure and percentage of outsiders on the CEO's own board are positively related to the number of MDS held by CEOs. Similarly, O'Sullivan (2009) finds that CEO duality is positively (and ownership concentration is negatively) related to the number of directorships held by CEOs, indicating that the weakness or strength of board governance is one of the determinants of the number of MDS held by CEOs. The findings may be useful for studies examining determinants of MDS of individual directors. These studies, however, examine the determinants of MDS at the level of individual directors, employing a person-based approach rather than a firm-based approach.

On the other hand, a small number of studies on MDS examine the determinants of MDS employing a firm-based approach that is firm-specific characteristics that are associated with the number of directorships. One of the earlier studies, Ferris and Jagannathan (2001) examines the determinants of MDS on a given board of U.S. firms and finds a significant positive relationship between the number of directorships per director and a number of firm specific characteristics including firm size (total assets), board size, growth opportunities

(market-to-book ratio) as well as firm performance (ROA and ROE). Expanding on this, Ferris et al. (2003) find similar evidence regarding the relationship between firm size and MDS. Adding to this, Imreorowa and Kollin (2013) investigate the incidence and determinants of the number of directorships held by boards of directors using Swedish company data. They find that larger firms, young firms, firms with larger boards and firms performing well tend to have higher numbers of MDS on the board, while directors' tenure and CEO director are negatively related to the number of MDS on a given board.

In the second stream, there are only a few studies examining the determinants of MDS on a given board. The firm-specific characteristics raised in the literature as determinants of MDS on a given board are listed below.

### **3.6.1 Firm Size**

According to existing empirical findings, there is a significant positive relationship between firm size and MDS on a given board, suggesting that firm size is one of the key determinants of MDS (Booth & Deli, 1996; Dooley, 1969; Ferris et al., 2003). This indicates that larger firms naturally operate in an extended external environment and may require frequent negotiation with diverse external groups to get access to a greater range of critical resources to support an increased level of business transactions (Arnegger, Hofmann, Pull, & Vetter, 2014; Kiel & Nicholson, 2006). In addition, the information requirements and environmental complexity of larger firms may result in the need for effective monitoring of management by expert directors (Boone, Field, Karpoff, & Raheja, 2007; Dey, Engel, & Liu, 2009; Raheja, 2005).

Thus, larger firms are likely to appoint more multiple directors to simplify their complex needs from being large. The finding of Clements et al. (2013) is consistent with this

argument that multiple directorships positively influence the corporate governance effectiveness of large firms.

### **3.6.2 Board Size**

Prior studies on MDS document that the number of MDS of a board increases with board size (e.g., Cashman et al., 2012; Ferris & Jagannathan, 2001; Ferris et al., 2003; Fich & Shivdasani, 2006; Sarkar & Sarkar, 2009). It is evident that board size increases with firm size, and hence the number of board members may indicate a firm's diversity and complexity, implying that the firm needs directors having a range of valuable expertise and potentially important connections (Boone et al., 2007; Linck, Netter, & Yang, 2008; Pathan & Skully, 2010). A similar interpretation regarding MDS and firm size is, therefore, applicable to board size.

### **3.6.3 Growth Opportunities**

Prior studies indicate that growing firms tend to have more multiple directors on the board (Ferris & Jagannathan, 2001; Imreorowa & Kollin, 2013). The motivation to employ multiple directors may come from the need of these firms to acquire diverse critical resources, access to product markets and valuable strategic advice to promote growth (Chen, 2009; Kor & Sundaramurthy, 2009). Growing firms, therefore, may benefit from multiple directors as they are able to support a firm's growth through their knowledge, prestige, and connectivity in professions and communities acquired from multiple board memberships.

### **3.6.4 Firm Performance**

Studies on determinants of MDS document that well performing firms tend to have more multiple directors on the board (Ferris & Jagannathan, 2001; Imreorowa & Kollin, 2013). The reason may be that a well performing firm needs access to a greater range of resources as

well as an optimal level of monitoring to continue its better performance (Hillman & Dalziel, 2003; Nicholson & Kiel, 2003). Based on this, firm performance may be associated with a greater likelihood of having multiple directors on the board.

### **3.6.5 Young Firms**

The empirical findings of studies examining the determinants of MDS indicate that ‘young’ firms employ more multiple directors on their boards. ‘Young’ firms’ may need support from skilled directors in the form of preferential access to resources, boundary spanning, advice and counsel, and legitimacy to meet initial demands (Field et al., 2013; Imreorowa & Kollin, 2013). To meet these needs, young firms are likely to employ multiple directors to obtain the benefits of directors’ experience and networks.

### **3.6.6 CEO Directors**

Companies with the CEO as a director tend to have fewer numbers of MDS on the board (Imreorowa & Kollin, 2013). This may occur because the CEO can exercise more influence on board decisions with fewer expert directors.

The above analysis on prior studies examining the determinants of MDS suggests that MDS on a given board might be associated with the firm’s needs or interests, such as to meet complex needs or improve aspects of performance and governance or reasons more associated with personal preference. The relationship between firm size and MDS on a given board is consistently positive, confirming prior findings that multiple directorships are a large-firm phenomenon. These studies, however, examine the determinants of MDS without considering any difference among MDS.

Prior research argues that some MDS may be more or less beneficial than others in terms of directors’ experience and connectivity as a whole on a board. That is, MDS of a board

may vary widely in terms of their perceived quality and status (Gupta et al., 2008; Loderer & Peyer, 2002). This suggests that firms may prefer or avoid certain types of MDS based on their needs. This also suggests an important gap in the research to explore organizational factors that determine the differences between different categories (such as prestigious vs. non-prestigious) of multiple directorships on a given board.

### **3.7 New Zealand Studies on MDS**

The practice of multiple directorships (MDS) is common among New Zealand corporations, and a large number of directors are found to have more than one directorship (Firth, 1987; Fox & Hamilton, 1994; Laurent, 1971). The primary reason behind MDS as mentioned in the CG Code NZ, 2003 is that there might be a smaller number of qualified directors available compared to actual requirements in this small economy, which may lead expert directors to serve on boards of multiple companies.

There are several studies on MDS in New Zealand; most of these studies primarily highlight the interlocking directorships (IDS), that is, the connectivity developed through multiple directorships. Although the motivations behind ‘multiple directorships’ and ‘interlocking directorships’ are different, these occur simultaneously in corporate practice. The findings of studies on New Zealand IDS and/or MDS, therefore, would be useful in identifying the pattern and trend of multiple directorships in NZ over time.

Laurent (1971) lays the foundation for studies related to multiple directorships in New Zealand by analysing 160 listed companies of NZ having total assets of more than 2 million dollars. This study reveals that MDS are common among large New Zealand corporations, and the majority (65.5%) of directors are found to have more than one directorship. The mean number of directorships held by individual directors is 3.1 during that time. Expanding on this, Fogelberg and Laurent (1973) explore the nature of connectivity (interlocks) developed



through MDS among the directors of NZ firms. They find that most of the connectivity developed among New Zealand corporations as a result of MDS is with competitors, suppliers, customers, and financial institutions. This implies that the incidence of MDS among NZ boards, rather than being random, is planned to get advantageous access to critical resources as well as to get the benefits of vertical or horizontal coordination, which is consistent with the logic of Resource Dependence Theory.

Adding to this, Firth (1987) investigates the extent of MDS and corporate interlocks among NZ listed companies. This study compares the incidence of MDS between two years, 1972 and 1984. The findings show that in 1972 only 16% of directors served on multiple boards, and by 1984 the figure increased to 19%. The mean number of directorships per individual director was 2.83 in 1972 and 3.00 in 1984. The findings indicate that the number and proportion of multiple directors in listed companies have been increasing over this period in New Zealand. This study concludes that the higher incidence of MDS may be because of the desire of NZ firms to build strong business relationships among corporations in order to offset the limitations of the small economy to achieve economies of scale and to obtain the critical resources needed to compete in export markets.

Alexander et al. (1994) investigate the concentration of MDS in the top 250 Australian and NZ companies. They find that New Zealand companies tend to have smaller boards than Australian companies (approximately two directors fewer per board); the mean number of directorships held and proportion of directors holding more than one directorship are 21% and 16% for New Zealand in 1987 and 1990 respectively, compared to 20% and 12% for Australia in 1986 and 1991 respectively. The comparative incidences of MDS in the two countries indicate that New Zealand has a higher incidence of MDS, given the lower number of directors in New Zealand.

Roy, Fox, and Hamilton (1994) examine the degree of changes in MDS for all listed companies on the New Zealand Stock Exchange in the years 1987, 1990 and 1993. Their findings indicate that the percentage of directors holding more than one directorship was 14.86% in 1993 compared to 18.90% and 20.59% in 1984 and 1987 respectively, suggesting a declining trend in MDS among NZX firms. They conclude that the declining trend in the number of directorships held by each director may be a consequence of the stock market crash of 1987 which caused a decline in a number of listed companies and board size.

Fox and Walker (1999) and Fox and Walker (2001) in a series of studies on corporate governance in NZ listed companies, examine the incidence of MDS. They identify a consistent pattern of MDS among NZ listed companies in 1996 and 1999: 13.6% of total directors (approximately 700) served on more than one board while in 2001 the figure increased to 17%. According to these studies, the existence of multiple directors is not usual among competitor firms in New Zealand.

More recently, Van Peurseem and Purcell (2015) analyse the possibility of audit risk driven by the presence of interlocking directorships developed through MDS and its implications for audit planning, using the data of 161 New Zealand listed companies as at December 2009. They find that on average 12-20% of all directors serve on multiple boards, which is consistent with the pattern of NZ firms over time. Their findings also reveal that 35% of multiple directors serve on boards in the same industry, which increases the chances of 'related party' audit risk. Moreover, cross-industry interlocks and interlocks with the finance industry may cause inter-company related party transactions.

Roudaki and Bhuiyan (2015) is one of the few studies that examine determinants and consequences of interlocking board membership in New Zealand and whether this interlocking affects firm performance. Their study finds evidence that New Zealand firms are significantly

interlocked, and that the number of interlocks of the NZ listed firms tends to decrease after 2003 (post-code period). Their finding also indicate that board size, the percentage of independent directors, CEO interlocks and firm complexity are positively related to interlocking directorships of New Zealand firms, while concentrated ownership firms are less likely to have interlocking directorships. In addition, empirical findings show that interlocking directorships negatively influence firm performance, which is consistent with the ‘busyness’ perspective of MDS.

From the above findings, it is seen that MDS have a long history in New Zealand. Studies on New Zealand multiple directorships frequently examine the extent and nature of multiple directorships as well as interlocking directorships (Firth, 1987; Laurent, 1971), types of corporate interlocks formed through MDS (Fox & Walker, 1999) and motivations for developing these interlocks (Firth, 1987; Fogelberg & Laurent, 1973). Few recent studies examine whether MDS are associated with better or worse performance and/ or governance (e.g., Van Peurseem & Purcell, 2015)

These studies also examine MDS at the level of individual directors, employing a person-based approach rather than a firm-based approach. Although the CG Code of 2003 recognizes that the shortage of qualified directors may cause MDS in NZ, none of the existing studies consider whether there are differences between different categories of MDS (such as prestigious and non-prestigious) of a NZ board in terms of quality and status. In addition, prior research examining effects of MDS on firm outcomes produces ambiguous results, and it would be difficult to infer the effects of MDS in NZ firms based on these findings. It is, therefore, important to examine the impact of MDS decomposing them into different groups; specifically, from the perspective of a small country such as New Zealand where regulation is more lenient regarding holding directorships. This suggests an important gap in the literature.

### 3.8 Summary

This chapter reviews existing literature and provides an understanding of the concept of MDS, perceived benefits and costs derived from MDS and the underlying factors that influence the quality of MDS. Multiple directorships can benefit both the director and the companies that he or she serves. The notable benefits of MDS include relevant business experiences, useful contacts and reliable information. In addition, MDS can serve as an indicator of directors' reputation. In contrast, MDS increase the workload of directors which may lead them to be ineffective directors. The issue of whether an individual director with multiple directorships is beneficial or detrimental for an organization is, therefore, still a topic of considerable debate in corporate governance research.

Prior studies examine the effects of MDS employing the two competing perspectives based on the benefits and costs of MDS. Empirical evidence generated to date on the relationship between MDS and firm outcomes has been inconclusive and contradictory, and neither of these theoretical perspectives has produced strong empirical evidence. It is difficult, therefore, to provide a generalized conclusion regarding the effects of multiple directorships based on these studies, hence further investigation is required to explore the value of MDS.

Several studies conclude that the performance implications of multiple directorships are conditional on a number of characteristics of a firm. The characteristics include firm size (Clements et al., 2013), firm age (Field et al., 2013), firm complexity (Cashman et al., 2012; Chakravarty et al., 2011), firm's agency conflicts (Chen, 2009; Perry & Peyer, 2005), firm's growth opportunity (Chen, 2009) and leverage (Lee & Lee, 2014). These factors may provide useful insights for further study.

Recent studies on MDS examine the effects of MDS employing an alternative approach, considering that 'some MDS are better than others'. Based on the empirical findings, recent

research claims that two possible reasons may cause the conflicting results in prior research. First, most of the prior studies examine the effects of MDS based on the quantity of MDS without considering their quality; however, directors vary in terms of prestige and status (Gupta et al., 2008). In addition, the ‘experience’ and ‘busyness’ effects of MDS are tested separately in the prior literature but most often occur simultaneously. The findings of recent studies on MDS, therefore, indicate the significance of categorizing MDS based on the associated benefits and costs, which could be a promising field for future research.

Prior studies examining the determinants of MDS suggest that previous firm performance is one of the key determinants of the number as well as the quality of directorships held by individual directors, while firm size, board size, growth opportunities, firm age and having a CEO as director are identified as the possible determinants of MDS on a given board. These studies, however, examine the determinants of MDS without considering any difference between MDS.

Although there is a large body of literature on MDS, it is difficult to provide a generalized conclusion regarding the effects of multiple directorships. Moreover, most of these studies are repeatedly conducted from the context of the US and the UK or Australia. However, little is known about the consequences of MDS in a small economy such as New Zealand, where MDS are driven by the unique business environment including a shortage of expert directors and a need to develop business networks to compete in export markets. Although MDS are common among NZ firms, no studies examine the impact of prestigious MDS or reasons for including prestigious multiple directors on the board. This leaves an important gap in the literature.

## CHAPTER FOUR

### RESEARCH FRAMEWORK AND DEVELOPMENT OF HYPOTHESES

#### 4.1 Introduction

The literature review in Chapter 3 reveals that there has been limited research examining the differences between multiple directorships (MDS), specifically ‘prestige’ related differences between MDS. Moreover, there has been limited research on MDS outside large economies (US, UK and Australia), in particular in New Zealand, where the institutional environment is significantly different from other developed countries. Based on these research gaps, this study seeks to extend the recent line of prior research on MDS by investigating whether there are firm ‘performance’ differences between different categories of MDS in the context of New Zealand. This study further aims to explore theoretically-informed explanations of ‘why’ differences may exist between MDS.

The purpose of this chapter is to present a research framework incorporating the components required to examine the ‘prestige’ related differences between multiple directorships (MDS). In the proposed research framework, greater emphasis is placed on the ‘differences’ between MDS by categorizing them into two groups: prestigious MDS and non-prestigious MDS. The basis for categorization is the ‘relative prestige’ of companies on which the board member serves. The framework allows identification of firm ‘performance’ differences between the two categories of MDS on the board and encompasses the insights of the relevant governance theories to explain the significance of two categories of MDS in order to develop relevant hypotheses.

This chapter is organized as follows. Section 4.2 explains the categories of multiple directorships with a discussion explaining the significance of categorizing MDS into two types. The next section outlines the considerations involved in choosing the relevant governance

theory/theories. In exploring the basis for a research framework, six governance theories are reviewed following Hung (1998) and three of these theories, namely, Resource Dependence Theory (RDT), Agency Theory (AT) and Managerial Hegemony Theory (MHT), are selected. Following this, an overall discussion of the theories is presented that highlights how these theories inform the research framework to develop hypotheses for this study. The subsequent two sections review the empirical literature including insights from relevant theories to validate the proxies selected to examine the implications as well as the determinants of the two categories of MDS, and each subsection concludes with the relevant hypothesis for empirical testing. Finally, a summary of the chapter is presented.

In the following sections and chapters: ‘Prestigious MDS’ and ‘Prestigious multiple directors’ and ‘Resource providing’ and ‘Resource provisioning’, are used interchangeably and carry the same meaning.

#### **4.2 Prestigious Vs Non-prestigious Multiple Directorships**

This section demonstrates the basis and the relevance for categorizing MDS into two groups: prestigious MDS and non-prestigious MDS, based on the ‘relative prestige’ of companies on which the board member serves. Relative ‘prestige’ of MDS is determined by recognizing a set of characteristics of appointing firms that may influence the level of benefits and costs that directors acquire from serving on multiple boards, such as listing status, ownership types, country of origin, reputation and industry affiliation.

This study is based on the argument that directors who obtain *valuable board experience, useful contacts, better certification abilities (reputation/prestige)* and *quality information* from serving on multiple boards are better able to help other firms that he or she serves to enhance financial outcomes. It further argues that directors are likely to acquire those benefits by serving on the board of a relatively high profile (prestigious) company than of a

low profile (non-prestigious) company. The ‘relative prestige’ of the appointing firms is employed as a measure of experience, connectivity, information and certification abilities acquired by the multiple directors.

This approach stems from the idea that because of the differences in certain firm-specific characteristics, such as industry affiliation, business reputation and listing status, organizations usually operate within environments that are likely to vary in terms of complexity and diversity, leading to different levels of board functioning and decision making (Arosa, Iturralde, & Maseda, 2013; Bendickson, Davis, Cowden, & Liguori, 2015). Accordingly, the experience, connectivity and certification abilities of the director developed through multiple board memberships tend to be influenced by these differences of appointing firms (Beckman & Haunschild, 2002; Kor & Sundaramurthy, 2009).

The first category is labelled as *prestigious MDS*, which includes directorships in banks, companies listed on NZX and ASX, Top 100 NZ Companies, Multinational Companies (MNC), State-owned Companies, Crown Companies, Crown agents, and market-related regulatory organisations. The second category contains directorships of non-listed, family and other firms, and is termed *non-prestigious MDS*. It is expected that directors who serve on the boards of prestigious firms could acquire *valuable experience*, *useful contacts* and *quality information* as well as *better certification abilities*, while the level of benefits directors obtain may not be the same from directorships in non-prestigious firms (Ferris et al., 2003; Gupta et al., 2008; Loderer & Peyer, 2002). The reasoning behind this argument is explained in the following sections.

Fama (1980) and Fama and Jensen (1983) argue that multiple directorships signal directors’ competence to the market for directorships: expert directors are likely to be asked frequently to serve on multiple boards. Directors who serve on multiple boards potentially



acquire working knowledge as a result of their experience in internal decision making across various industries and regulatory environments (Beckman & Haunschild, 2002; Carter & Lorsch, 2004). The diversity and degree of board experience that directors may have obtained from serving prestigious companies may not be possible from similar service in non-prestigious firms, such as non-listed or family firms (Bendickson et al., 2015; Kroll, Walters, & Wright, 2008). Further, directors who serve on the boards of prestigious firms can learn diverse operational strategies and monitoring techniques employed by other high-profile firms to deal with complex and dynamic strategic and governance issues. The knowledge and skills generated from the board experience of prestigious firms may allow directors to provide alternative viewpoints on strategic and governance problems and concerns. Accordingly, experience in prestigious firms can help directors to broaden the level of knowledge and skills necessary to perform their advising and monitoring duties at an optimum level (Carpenter & Fredrickson, 2001; Cashman et al., 2013).

In addition, multiple directorships allow directors to interact regularly with directors and executives of other firms in board and committee meetings, which may provide them with the opportunity and motivation for information exchange (Carter & Lorsch, 2004; Davis, 1991; Kor, 2003). The meeting frequency and extensive board level activities of prestigious firms may be required by the challenges of a more complex environment (Arosa et al., 2013; Clements et al., 2015a). Through this frequent communication with other board members, multiple directors can get timely access to a wide variety of ideas about the numerous corporate policy approaches and reliable information regarding contemporary opportunities, threats, competitive conditions, technologies and regulatory changes (Clements et al., 2015b; Haunschild & Beckman, 1998; Kor, 2003). Prior research asserts that the information resources that directors obtain through multiple directorships are likely to be relevant and of high quality (Davis & Mizruchi, 1999). This updated knowledge and high-quality information

may help multiple directors to develop their current and future understanding of business and industry dynamics, which in turn enables them to monitor managerial actions efficiently (Kor & Sundaramurthy, 2009). This benefit of MDS may be more obtainable when a director serves on the board of a prestigious firm. This is because board and committee level meetings may be held only occasionally in small and family firms, and the ideas and information derived from these firms are likely to be more firm-specific and of limited/or no value to other firms (Forbes & Milliken, 1999; Gabrielsson & Winlund, 2000).

Prior research has established that directors who serve on multiple boards are exposed to a wider contracting environment and are engaged in negotiating with more groups (Booth & Deli, 1996; Ferris et al., 2003; Kiel & Nicholson, 2006). This in turn helps the firm in obtaining preferential access to critical resources by developing advantageous contracting relations with other firms (Bazerman & Schoorman, 1983; Burt, 1992; Field et al., 2013; Kor & Sundaramurthy, 2009; Zahra & Pearce, 1989). Because of the complex operating environment, directors of prestigious firms may need to negotiate frequently with diverse groups to manage the various business relationships of high-profile firms. Consequently, directors of prestigious firms potentially develop important connections with various external constituencies. By contrast, the directors of non-prestigious firms may not be required to interact frequently with diverse groups and they may have limited involvement with the external environment because of their limited scope of operation. Therefore, directors are less likely to acquire valuable commercial contacts from their directorships in non-prestigious firms (Loderer & Peyer, 2002).

Multiple directorships may help directors to enhance their reputation or certification ability by providing more power, prestige, compensation and access to valuable networks (Jiraporn et al., 2009b; Levit & Malenko, 2016; Mace, 1986). The reputation of directors that is developed from multiple memberships may be more obtainable when they serve on the board of prestigious firms relative to non-prestigious firms (Cashman et al., 2013; Gupta et al., 2008).

Directorships in high-profile firms may indicate multiple directors' better certification abilities by boosting their reputation in the market as the agents of reputed/ prestigious organisations (Kiel & Nicholson, 2006; Mullens, 2014). Empirical evidence of Tirole (1996) is consistent with this argument; it shows that a firm's reputation can influence the reputation/ prestige of individual directors within that firm and vice versa. On the other hand, non-prestigious firms are likely to lack broad bases of influence and endorsement as they have passive involvement with different groups in the external environment, hence, may be less familiar to different external groups (Shu & Lewin, 2016). It suggests that directorships in non-prestigious firms are less likely to provide directors with the benefits of reputation and visibility.

Taken together, the above arguments demonstrate that directors who serve on the boards of prestigious firms are likely to be expert as well as reputable directors. Directors obtain valuable board experience, useful contacts, quality information and better reputation from their directorships in prestigious firms that may offset the costs associated with the time constraints of MDS. Hence, prestigious directors are better able to meet firms' needs for intensive monitoring and extended resource provisioning. These differences between MDS may result in a stronger relation between financial outcomes and the number or proportion of prestigious directorships as compared to non-prestigious directorships on a given board.

This also leads to the perspective that some firms may prefer to appoint directors with a higher number of prestigious MDS on their board because their need for this expertise is greater. In contrast, appointing these high-quality directors may be unnecessary and costly for other firms. These two issues and the MDS categories that the above arguments point to, are thus of interest.

From the context of New Zealand, directorships of non-prestigious (non-listed or family) firms may not enhance skills of directors in the same way as the board memberships of prestigious firms might do (Reddy et al., 2008). New Zealand companies may need qualified directors to better handle the increased responsibilities of the board because of the statutory changes regarding audit committee, independent directors and residential directors (Boyle & Ji, 2013; Van Peurseem & Purcell, 2015). Hence, prestigious directors may be of high importance to meet the increased demand for networking of export-oriented New Zealand firms. This suggests that effects of and motives for choosing directors with prestigious and/or non-prestigious experience may be significantly different, given the limited pool of expert directors in New Zealand.

Subsequent sections employ selected governance theories to form a theoretical framework for analysing the influence of these theoretical explanations, and for distinguishing between ‘prestigious’ and ‘non-prestigious’ MDS in terms of those explanations. In particular, it is expected that the dynamics resulting from serving a prestigious board may inform whether and how a particular type of MDS serves the interests of the organization. A range of relevant governance theories, which recognize the roles of the board of directors are identified, and may be capable of contributing to an explanation of motives for, and effects of, having directors with prestigious experience and/or non-prestigious experience. The next section explains the considerations made in choosing relevant governance theories for this purpose.

#### **4.3 Considerations in Selecting Governance Theories**

This study considers governance theories in relation to MDS, as identified by Hung (1998) in order to explain the roles of the corporate board; they include Resource Dependence Theory (RDT), Agency Theory (AT), Managerial Hegemony Theory (MHT), Stakeholder Theory (SHT), Stewardship Theory (SST) and Institutional Theory (IT). Among these, three theories are selected for this study as capable of explaining the relationships central to this

study as well as being applicable to the operating settings within which those relationships exist (Bui & de Villiers, 2017). The following section discusses the preceding theories one by one in order to identify a framework suitable for this study.

Resource Dependence Theory (RDT) explains the role of the board as the provider of critical resources and highlights the need to create linkages between firms and external groups in order to manage the uncertainty in accessing required resources. Multiple Directorships are seen as a way of helping directors build connectivity with other organisations in the external environment, which allows them quick access to information and resource networks (Beckman & Haunschild, 2002; Nahapiet & Ghoshal, 1998). Directors serving on multiple boards, therefore, can help the board to perform a 'linking role' to minimize dependence or gain resources. Prior studies assert that directors who are professionally connected to certain firms, such as banks or government or regulatory organisations, are able to provide advantageous access to the required resources by connecting the firm with the external factors which generate uncertainties and external dependencies (Adams et al., 2010; Rivas, 2012). This suggests the relevance of categorizing MDS into two groups from the perspective of RDT. Hence, RDT is significant for this study.

Agency Theory (AT) is concerned with the monitoring role of the board; strong monitoring capability of directors is emphasized as the prerequisite of monitoring management effectively. From the perspective of AT, experience and information obtained on multiple boards can help directors in developing their monitoring capability. In addition, multiple directors are likely to be more concerned about their professional reputation, which motivates them to perform their monitoring responsibilities with due care (Clements et al., 2013; Ferris et al., 2003). Alternatively, directors might be overcommitted/ distracted (busyness) because of a higher number of MDS, which may reduce their ability to monitor management effectively, and may be associated with more agency conflicts. Then again, the level of knowledge and

experience that directors obtain from multiple boards may be influenced by the variation in board activities associated with monitoring management in different types of firms. This suggests that prestigious board experience may serve as a means of improving monitoring ability by offsetting the associated costs. Hence, AT is included as this theory is consistent with the central theme of this study.

Managerial Hegemony Theory (MHT) identifies deficiencies of the corporate board in management control, that is, the role of the board of directors in corporate governance is seen as passive and ineffective in minimizing agency conflicts. Although existing studies do not explicitly address the perspective of MHT with regard to multiple directorships, MHT could be relevant to explain the relationship between CEO power and two MDS categories from similar arguments as for AT. That means that directors having prestigious board experience relative to that from non-prestigious firms might be better able to minimize the influence of management on board oversight and hence, may be associated with better performance. Consequently, a powerful CEO could influence the firm choice between these two categories of MDS, hence MHT is considered relevant for this study.

Stakeholder Theory (SHT) explains the coordinating role of the board and suggests that the corporate board needs to focus on the performance of the organisation in terms of meeting the expectations of various stakeholders of the firm including “employees, customers, suppliers, stockholders, banks, environmentalists, government or other corporations” (Hung, 1998, p. 106). From this perspective, a firm may prefer to appoint multiple directors who are connected with various external constituents through board memberships to help coordinate multiple competing interests of various stakeholders. However, the focus of this study is to explore differential impacts of two categories of MDS on firm performance. This study is concerned with firm performance (Return on Assets, Return on Equity, Tobin’s Q and Stock Return), which means from the perspective of shareholders rather than that of other

stakeholders. In addition, the second part of this study seeks to examine the determinants of prestigious MDS and non-prestigious MDS. However, there is no clear evidence whether directors with prestigious MDS are better able to serve a wider group of stakeholders relative to their counterparts in non-prestigious firms. It would, therefore, be challenging to come to reasonable hypotheses regarding MDS by categorizing them into two different categories of MDS: prestigious and non-prestigious. Hence, SHT is not significant for this study.

Stewardship Theory (SST) argues that executives of a company are stewards of the owner whose motives are aligned with the objectives of their principal, and there is no conflict of interest between owner and manager (Davis, Schoorman, & Donaldson, 1997). This theory highlights the relationship between managerial power and firm performance. It asserts that a manager is directly responsible for protecting shareholders' wealth through enhancing firm performance and, by doing so, will maximize their benefits (Donaldson & Davis, 1991). Accordingly, the directors will play a more indirect function whose role is recognized as facilitating and empowering managers (rather than monitoring and control); that is defined as the 'strategic role' of the corporate board (Fox & Hamilton, 1994; Hung, 1998). It suggests that multiple directors may be better able to perform the 'strategic role' of the board employing the experience, knowledge, and information obtained by serving multiple boards. However, the focus of this study is different, that is, the 'performance' difference between MDS categories and what explains the differences between prestigious and non-prestigious MDS rather than how MDS enable executives to maximize shareholders' wealth. Stewardship theory, therefore, is not considered relevant for this study.

Institutional Theory (IT) emphasizes the institutional environment, such as political, economic, social, and regulatory bodies that influence the development of formal structures including the strategic direction of organizations (Meyer, Rowan, Powell, & DiMaggio, 1991). From the perspective of IT, boards play a 'maintenance role' to conform to recognizable and

acceptable standards within the organizational field in order to shape organizational practice in line with the social expectations for the organization. These board-level actions decrease institutional diversity and make organizations more likely to meet the environment's expected characteristics, which helps foster the organization's legitimacy. Multiple board experience may be helpful to understand the expectations for organizational behaviour and practices. However, this study does not aim to explore the effects of MDS in reducing broadly endogenous pressures of being an institution, and therefore an institutional framework is not applied here.

Based on the above discussion, three theories, RDT, AT and MHT, are considered to be most relevant to develop the theoretical framework for this study. The next section reviews the three theories in order to provide the basis for developing the framework.

#### **4.4 Theoretical Framework**

The theoretical framework of this study is developed by combining insights from three different, but complementary, governance theories. A multiple theoretical perspective is adopted, as a single theory may be inadequate in addressing a complete representation of the underlying forces of MDS and their impact on financial outcomes (Carpenter & Feroz, 1992). The perspective of each individual theory with respect to multiple directorships is now analysed in the following subsections.

##### **4.4.1 Resource Dependence Theory (RDT)**

Resource Dependence theory asserts that the corporation is an open system which is operating in a competitive environment and, hence, exposed to a variety of contingencies which are primarily generated from external dependencies to secure essential resources (Bazerman & Schoorman, 1983; Pfeffer & Salancik, 1978). Resources can be defined as "anything that could be thought of as a strength or weakness of a given firm" (Wernerfelt, 1984, p. 172). The



resources required by an organisation ultimately originate from the external environment that contains other organisations (resource providers). Effective management of uncertainty in accessing resources leads to power of an organization over dependent firms (Kaczmarek et al., 2014; Ulrich & Barney, 1984). According to RDT, the survival and growth of the firm are likely to be enhanced by the power to manage relationships with organisations, which control required resources (Pfeffer & Salancik, 1978; Shu & Lewin, 2016; Withers et al., 2012).

RDT recognizes the role of corporate directors as the providers of resources to a firm by serving as an essential link between the firm and the external environment. Hence, the board of directors serves to help reduce environmental uncertainty within the firm and enhance a firm's survival and performance (Hillman & Dalziel, 2003; Nicholson & Kiel, 2003). The directors bring resources to the firm in terms of four primary benefits: (1) expertise and skills in the form of advice and counsel, (2) access to channels of information between the firm and environmental contingencies, (3) preferential access to resources, and (4) legitimacy, meaning bolstering the public image of the firm (Hillman & Dalziel, 2003; Nicholson & Kiel, 2003; Pfeffer & Salancik, 1978; Zahra & Pearce, 1989).

#### **4.4.1.1 MDS and Resource Dependence Theory**

The fundamental tenet of RDT is the need for linkages between the firm and the environment, which is recognised as one of the primary functions of the board that could reduce transaction costs derived from environmental interdependency (Bryant & Davis, 2012; Hillman, 2005; Hillman & Dalziel, 2003; Hillman, Withers, & Collins, 2009). From this perspective, MDS is recognised as a mechanism that permits directors to create linkages to different groups in the external environment, which in turn may provide access to timely information and resource networks (Beckman & Haunschild, 2002; Kiel & Nicholson, 2006).. Hence, MDS can help firms to manage external dependencies in accessing resources that may result in better financial outcomes.

In particular, a firm can benefit from appointing multiple directors to the board in a number of ways. To begin with, multiple directors are likely to obtain useful contacting networks through professional relationships with other directors, executives and firms (Clements et al., 2013; Kor & Sundaramurthy, 2009; Mace, 1986). The connectivity developed via multiple directors allows a firm to develop advantageous contracting relationships with other dependent entities (Booth & Deli, 1996; Ferris et al., 2003). In addition, multiple directors are likely to be influential individuals within the business environment, and a firm can enhance their reputation by employing them on the board (Bazerman & Schoorman, 1983; Kiel & Nicholson, 2006). This may work as a prerequisite for developing relationships with key resource providers (Barroso-Castro et al., 2016; Mizruchi, 1996). Multiple directors, therefore, are likely to be helpful in acquiring critical resources from important elements outside the firm, gaining legitimacy and initiating new business relationships that are critical to a firm's survival (Burt, 1992; Certo, 2003; Kor & Sundaramurthy, 2009).

Furthermore, directors potentially acquire high-quality information and knowledge regarding numerous corporate policy approaches and experience a diverse set of strategic decision making and implementation challenges when serving on multiple boards (Beckman & Haunschild, 2002; Field et al., 2013). The experience and information regarding contemporary strategic issues may improve directors' ability to provide advice and counsel to management. Therefore, multiple directors are likely to be associated with better advice and counsel, hence may positively influence a firm's performance (Westphal, 1999; Westphal & Fredrickson, 2001).

Finally, it has been argued in the prior literature that multiple directorships can promote channels of communicating information by persuading mutual flows of timely and necessary information across firms and other organisations in the external environment (Carpenter & Westphal, 2001; Kiel & Nicholson, 2006; Mizruchi & Stearns, 1988). As a result, such

directors may be able to reduce uncertainties across corporate boundaries in a number of ways: (1) by representing their organisations to target groups in the environment, (Zahra & Pearce, 1989); (2) by reducing vertical coordination and scanning costs (Hillman & Dalziel, 2003); (3) by providing access to strategic information and contributing to opportunities that may arise therefrom (Pfeffer, 1991), and (4) by facilitating the dissemination of innovations across firms (Beckman & Haunschild, 2002; Kiel & Nicholson, 2006). Thus, the presence multiple directors on the board may enable important forms of communication to occur across firm boundaries that might not otherwise exist.

#### **4.4.1.2 Prestige, MDS and Resource Dependence Theory**

According to Resource Dependence theory, appointing directors who have better influence and access to key resource networks may be a proactive strategy to absorb the critical elements of environmental uncertainty into the firm (Hillman, Cannella, & Paetzold, 2000; Pearce & Zahra, 1992; Wagner, Stimpert, & Fubara, 1998). This may allow a firm to extract useful resources and enhance legitimacy employing directors' higher level of knowledge, prestige, and connectivity in professions and communities (Barroso-Castro et al., 2016; Tian et al., 2011).

Based on this argument, several studies document that a firm is better able to manage the uncertainty in accessing resources by appointing directors who have professional relationships with certain firms. For example, bankers (Adams & Mehran, 2011; Kroszner & Strahan, 2001; Mizruchi, 1996; Mizruchi & Stearns, 1988; Slomka-Golebiowska, 2014), government officials (Lester, Hillman, Zardkoohi, & Cannella, 2008), politicians (Hillman, 2005), and directors who serve on the boards of suppliers, buyers, banks and alliance partner firms (Peng, 2004). This suggests that directors when serving on the boards of certain firms are better able to provide linkages to critical interdependence in the external environment and minimize transaction costs which in turn, may result in a better financial outcome.

More specifically, directorships in banks represent a director's connectivity to a capital provider who can provide expertise and information on the market for debt as well as enhance access to external financing (Booth and Deli, 1996; (Booth & Deli, 1996; Güner, Malmendier, & Tate, 2008). In addition, multiple directors who serve on the boards of regulatory authorities, as well as state-owned/ crown organisations may help their organisations to mitigate regulatory dependence by providing access to regulatory knowledge, lobbying, advocacy, building a constituency, and forming alliances (Hillman & Hitt, 1999; Hillman, Keim, & Schuler, 2004). Directors of foreign firms appear to be helpful in providing valuable knowledge and information on market factors and institutions as well as on culture, behaviour, and norms of the country or region (Carpenter & Westphal, 2001; Rivas, 2012). Finally, a firm may bolster its own prestige by employing directors of other prestigious firms, such as Top 100 NZ companies or publicly listed firms. Having prestigious directors on the board may work as a prerequisite for securing critical resources (Gupta et al., 2008; Withers et al., 2012). This suggests that directors are likely to obtain a number of high-quality attributes from prestigious board memberships that may be useful in performing the resource-providing role of the board effectively.

In contrast, non-prestigious firms, such as non-listed and family firms, are likely to have fewer board members as well as limited involvement with different groups in the external environment. In addition, these firms may lack legitimacy (prestige) either less well-known in or acquainted with the environment (Shu & Lewin, 2016). Directorships in non-prestigious firms are, therefore, less likely to provide directors with the additional benefits of reputation, experience and valuable contacts (Loderer & Peyer, 2002). This implies that directors who serve on the boards of non-prestigious firms may have limited capability to create linkages with valuable external contingencies and access to critical resources.

The above arguments suggest that because of differences in firm-specific characteristics and the nature of the environments within which firms operate, directors who serve on the boards of prestigious firms could bring valuable experience and useful contacts as well as better certification abilities to the firm (Clements et al., 2015a, 2015b; Ferris et al., 2003; Gupta et al., 2008; Loderer & Peyer, 2002). Thus, these directors are likely to help the firm in obtaining valued resources, establishing legitimacy<sup>7</sup>, providing advice and counsel and exchanging information back and forth between the firm and its external environment. This suggests that a corporate board with prestigious multiple directors is better able to manage external dependencies by providing resources to the firm with a higher degree of certainty to support its survival and growth. More prestigious MDS on the board, therefore, can be linked to lower transaction costs associated with environmental interdependencies, reduced uncertainty, and potentially better financial outcomes.

RDT also asserts that different firms may experience different levels of uncertainty and external dependencies because of the variation in the need for critical resources that may influence board composition (Boyd, 1994; Daily & Dalton, 1994; Hillman et al., 2000). This means that certain firms may require access to a greater range of resources to support their complex as well as extended scope of operation, while the level of environmental dependence may be moderate or low for other firms (Kiel & Nicholson, 2003). Thus, a higher level of external dependency leads to a proactive strategy to cope effectively with uncertainties in accessing resources, which in turn may be facilitated through appointing directors who currently serve on the boards of prestigious firms.

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<sup>7</sup> Legitimacy theory, which overlaps with RDT has not reviewed separately.

#### **4.4.2 Agency Theory (AT)**

Agency theory is rooted in the concept of ‘separation of ownership and control’ in a modern corporation and is based on the premise that a principal and an agent are in a cooperative (agency) relationship, while having divergent interests and attitudes towards risk (Berle & Means, 1932; Eisenhardt, 1989; Fama & Jensen, 1983). This theory explains how to best organize relationships in which one party (owner-principal) determines the work while another party (manager-agent) does the work (Jensen & Meckling, 1976; Ross, 1973). The central theme of this theory is associated with resolving goal-conflicting problems and risk sharing issues (agency problems) between the principal-owner/shareholder and the agent-manager which are associated with aligning the potential divergence of interests between shareholders and managers (Eisenhardt, 1989; Fama & Jensen, 1983).

AT argues that the board of directors is one of the most important internal mechanisms whose primary responsibility is to monitor management on behalf of shareholders. The ‘monitoring function’ of the board is to ensure that managers are working in the interests of shareholders by assessing the impact of management decisions on shareholders’ wealth (Fama & Jensen, 1983). Monitoring by the board of directors, therefore, could be directed at shareholders’ interests by reducing agency costs, manifested in terms of producing better financial outcomes (Hillman & Dalziel, 2003).

This theory emphasises the establishment of adequate monitoring mechanisms to control the conflicts arising from the separation of ownership and control. Accordingly, agency theorists suggest that a strong and vigilant corporate board consisting of expert directors are better able to mitigate an agency problem. This may be an effective mechanism to ensure effective monitoring of management at an optimum level (Adams et al., 2010). The central theme of AT implies that the professional capability of the director is one of the key elements

in optimal performance of monitoring duties by the corporate board (Güner et al., 2008; Nicholson & Kiel, 2004; Wang, Xie, & Zhu, 2015).

Directors' expertise/ capability refers to their levels of knowledge, skills and expertise that are primarily developed by their education, training and professional experiences (Hitt, Bierman, Shimizu, & Kochhar, 2001; Khanna, Jones, & Boivie, 2014; Sturman, Walsh, & Cheramie, 2008). In particular, an individual director's current and past experiences as board member and manager can be a strong indicator of their competency or professional capability (Kor & Sundaramurthy, 2009; Nahapiet & Ghoshal, 1998; Westphal & Fredrickson, 2001). This is because the first-hand experiences obtained from professional services can shape their way of thinking, ability to synthesize information and meticulous attention to detail, as well as allow them to develop specific skills and procedural knowledge (Becker, 2009; Certo, 2003; Westphal & Fredrickson, 2001). Directors with higher levels of relevant professional skills, therefore, are better able to monitor self-interested actions of managers, and in turn, may positively influence corporate governance and performance (Khanna et al., 2014; Withers et al., 2012).

#### **4.4.2.1 MDS and Agency Theory**

Agency theory can be related to the context of MDS in two different ways. First, multiple directorships have long been acknowledged as a means of bringing in the contemporary knowledge and information regarding business to the corporate board (Booth & Deli, 1996; Mace, 1986). Based on this, a growing body of research argues that directors obtain valuable and easily transferable human capital (defined as 'general human capital' that is usable in other firms) from direct experience and information obtained on multiple boards (Keys & Li, 2005; Li & Ang, 2000). Serving on multiple boards can act as a training device for directors to develop better monitoring ability by providing exposure to a variety of strategic and governance issues and allowing them to understand the inner workings of different

organisations (Beckman & Haunschild, 2002; Kor & Sundaramurthy, 2009). Consequently, multiple directors may be able to minimize agency conflicts by providing analytical insights into diverse issues of governance (Clements et al., 2013; Hashim & Rahman, 2011). Multiple directorships, therefore, could be a source of diverse professional experience and strong indicators of individual directors' capability, which is essential to carry out the required monitoring role of the corporate board.

Agency theorists also advocate that efficient markets for directorships can serve as one of the mechanisms for minimizing agency conflicts (Fama, 1980; Fama & Jensen, 1983). Multiple directorships can be linked with this perspective of AT in that the experiences of directors from multiple boards are likely to signal their competence (reputation) in terms of better monitoring abilities: they are decision experts; they understand the importance of diffuse and separate control and they can work with such decision control systems (Fama & Jensen, 1983, p. 315). Prior research suggests that a reputational effect (firm success indicates board member's ability) exists in the market for directors (Clements et al., 2013; Ferris et al., 2003). This means that directors who have superior performance on previous boards are subsequently rewarded with additional directorships. In the market for directorships, this reputational effect can shape a director's monitoring ability. This is because directors have strong incentives to maintain their standing as expert monitors in the market for directorships for future opportunities.

Alternatively, despite the benefits of multiple directorships, there can be associated costs. Serving on many boards ("over-boarding"), also defined as "busyness" in the prior literature, can be associated with more agency conflicts as multiple directorships could make directors overcommitted/ distracted and this reduces their ability to monitor management effectively (Ahn et al., 2010; Harris & Shimizu, 2004). Corporate directorships provide directors with important expertise, experience, skills, prestige and connections to directors;



therefore, an individual may be motivated to accept additional directorships with the objective of maximizing personal perquisites (Jiraporn et al., 2009a; Jiraporn et al., 2009b). Consequently, directors with excessive directorships tend to spend less time preparing for each individual board, may frequently be absent from board and committee meetings or may compromise their professional responsibilities (Fich & Shivdasani, 2006; Shivdasani & Yermack, 1999). In effect, this “shirking” behaviour of directors may adversely affect the quality of their monitoring contributions to the corporate boards. Thus in turn may be associated with more agency conflicts (Cashman et al., 2012; Jiraporn et al., 2008).

It appears from the above arguments that the presence of directors with multiple directorships on the board may either help minimize agency conflicts or induce the problems associated with agency relationships in the case of excessive number of MDS. Multiple directorships as a board characteristic, therefore, is a ‘double-edged sword’ from the perspective of AT. Although the effectiveness of multiple directors in minimizing agency costs is an unresolved issue, the categorization of MDS into prestigious and non-prestigious may help to provide a number of valuable insights on this issue.

#### **4.4.2.2 Prestige, MDS and Agency Theory**

Jensen and Meckling argue that "We would expect monitoring activities to become specialized to those... individuals who possess comparative advantages in these activities" (1976: 354). This suggests that a board composed of directors who have higher levels of knowledge developed from professional experiences may be better able to monitor management decisions, which in turn may result in fewer agency conflicts (Certo, 2003; Hillman & Dalziel, 2003; Khanna et al., 2014). Central to this argument is that the quality of monitoring is likely to be influenced by the level of professional skills of the director.

One means of gaining a higher level of professional skills can be to serve on the boards of organisations that may provide directors with valuable experiences, relevant knowledge and reliable information (Clements et al., 2015a, 2015b). Prior studies assert that the diversity and complexity of strategic and governance issues faced and board-level actions initiated by a high-profile organisation at a particular point of time may not be similar to those for a non-prestigious organisation (Gupta et al., 2008; Loderer & Peyer, 2002). It is, therefore, arguable that these differences in the board-level decision making and implementation challenges among different organisations (prestigious versus non-prestigious) can influence the level of professional knowledge, experience and information of directors who are involved in the board process.

More specifically, directors obtain better professional skills from their board memberships in prestigious firms for several reasons. To begin with, prestigious (large and publicly-held) firms are characterized by dispersed ownership which may result in more agency conflicts, and the boards of directors of these firms are likely to oversee a complex operating environment and a diverse set of corporate governance issues (Ferris et al., 2003; Hermalin & Weisbach, 2001). In addition, corporate governance mechanisms in high-profile organisations, particularly boards of directors, serve to ensure that the firms' assets are managed efficiently and in the interests of shareholders as these firms are subject to close scrutiny by stock market participants, government agencies and stock exchange institutions (Jermias & Gani, 2014; McCahery et al., 2013). This suggests that knowledge, experiences, and information derived from directors' professional involvement in prestigious organisations may contribute more to develop their better monitoring ability. Therefore, directors with prestigious experience are able to monitor management performance.

In contrast, non-prestigious firms (non-listed and family firms) are characterized by high ownership concentration, lenient regulatory requirements (Arosa et al., 2013) and less

complex board-level activities and control structure (Daily & Dalton, 1994; Fama & Jensen, 1983). Consequently, a diminished monitoring role of board members is observed in non-prestigious firms as board level decisions are primarily influenced by founders/ owner-managers (Bendickson et al., 2015; Huse, 2000). Prior research, therefore, argues that the monitoring role of the board of directors (applicability of AT) in the context of family and non-listed firms is questionable (Arosa, Iturralde, & Maseda, 2010). It suggests that knowledge, experience and information of board members derived from non-prestigious directorships may not be useful in enhancing their monitoring capability, hence have no impact on agency conflicts.

From the perspective of the market for directorships, prestigious board experience of individual directors can act as evidence of their better monitoring ability and, because of that, they have been rewarded with high-quality directorships (Gupta et al., 2008). Accordingly, reputable directors are likely to be credible and more concerned to retain as well as enhance their reputation as a vigilant monitor (Withers et al., 2012). This may derive from the fact that if they did not act as expert monitors their reputational capital would be damaged and they may lose future job opportunities (Levit & Malenko, 2016). Because of this motive, they may make their best efforts to monitor management and other governance tasks. In contrast, directorships in non-prestigious firms may not signal better monitoring skills of directors in the market and may generate less incentive in terms of the reputation for future directorships (Boivie, Graffin, & Pollock, 2012). This view of AT infers that concern for reputational damage may motivate prestigious directors to actively monitor management actions.

Taken together, the above arguments suggest that the opportunity to serve on the boards of prestigious firms may help directors to develop their monitoring abilities by providing valuable and transferable general human capital and skills. This may offset the costs derived from the 'busyness' problem that accompanies the practice of having multiple directors. In

contrast, the monitoring benefits from non-prestigious directorships experience seem to be minimal. Directors who hold current board memberships in prestigious organisations, therefore, can play an important value-enhancing role in monitoring management and other governance tasks. This contributes to the efficiency of the board's role in managing agency conflicts, hence may help to produce better financial outcomes by reducing agency costs.

Furthermore, having prestigious multiple directors on the board may act as a mechanism to mitigate agency conflicts. This suggests that firms with increased need for monitoring management may appoint more prestigious directors on the board, while firms that are less subject to agency conflicts may have a lower likelihood of prestigious directors.

#### **4.4.3 Theory of Managerial Hegemony (MHT)**

Managerial Hegemony Theory focuses on the support role of the board of directors and characterises the board as a 'legal fiction': the board's role in corporate governance is seen as passive (hence, ineffective) in minimizing conflicts of interest between management and shareholders (Herman, 1981; Vance, 1983; Wolfson, 1984). Consequently, the strategic decisions of an organisation are dominated and pre-empted by corporate management and the corporate board serves simply as a "rubber stamp" to the policies initiated by management (Herman, 1981; Hung, 1998).

MHT provides possible explanations that could partially cause the passive behaviour of directors in organisational decisions making. To begin with, when CEOs exert control over the selection of outside board members, there is a possibility that ineffective directors who are likely to be compliant are selected (Eminet & Guedri, 2010; Hermalin & Weisbach, 1998). It leads directors to be loyal to management and these directors are seen as co-opted to the organisation (Herman, 1981; Wolfson, 1984). Consequently, these directors are less likely to criticise management's behaviour, and tend to act in compliance with management's proposals

and decisions. This is because directors are less likely to jeopardize their board seat and its associated benefits, such as compensation, prestige, and status associated with board membership (Ogbechie, 2012).

The passive behaviour of the board of directors is further attributable to their relative lack of knowledge about the company's affairs (Estes, 1980) and their dependence on information and insights that are provided by the company's top management (Vance, 1983; Wolfson, 1984). All of these will have an adverse effect on the board's monitoring and control functions. This suggests that the self-interests of powerful individuals may result in a board consisting of majority of ineffective and compliant directors. As a result, CEOs can play a dominant role throughout the board's decision processes (Withers et al., 2012). This may have a negative effect on corporate performance.

Alternatively, directors who have relevant board experience and access to updated information are able to evaluate management performance without depending on management and may not act as "rubber stamps" to the policies initiated by the management. This suggests that the presence of expert directors on the board could offset the CEO's influence on board oversight, which may have a positive impact on firm performance.

#### **4.4.3.1 MDS and Managerial Hegemony Theory**

Multiple board appointments are likely to provide directors with valuable experience, knowledge and access to information across numerous industries (Clements et al., 2013; Ferris et al., 2003; Harris & Shimizu, 2004; Sarkar & Sarkar, 2009). These professional skills on multiple boards broaden directors' knowledge base and shape their way of thinking independently (Westphal & Fredrickson, 2001).

In addition, multiple directors are likely to be more familiar with the similar strategic and governance issues and get access to contemporary information because of their

involvement with other firms; therefore, they may not need to rely on information provided by the management.

Finally, multiple directors may have more job opportunities because of being well connected; hence, they are less likely to be compliant directors. This suggests that appointing multiple directors on the board may serve as a means of minimizing CEO influence on board monitoring.

However, there is a growing concern that directors serving on multiple boards may be overcommitted because of time constraints (Ahn et al., 2010; Fich & Shivdasani, 2006; Méndez et al., 2015). Whether multiple directors are effective in monitoring management is an unresolved issue in the literature, which is also evidenced by the inconclusive findings of prior studies.

From the perspective of MHT, multiple directors who are well-known as expert monitors are less likely to be appointed to firms having powerful CEOs, and those who are likely to be compliant would be selected (Withers et al., 2012; Zajac & Westphal, 1996). This suggests that certain multiple directors may be expert monitors while others may be compliant depending on the level of experience, knowledge and access to information derived from multiple board memberships. It is expected that the categorization of MDS into prestigious and non-prestigious can provide more understanding on this issue from the perspective of MHT.

#### **4.4.3.2 Prestige, MDS and Managerial Hegemony Theory**

The perspective of Managerial Hegemony regards directors serving on boards of prestigious firms as efficient and vigilant monitors relative to their counterparts with directorships in non-prestigious firms. Directors who serve on the boards of prestigious firms are likely to obtain better monitoring experience, diverse knowledge and quick access to timely information from their connectivity to other directors and executives of high-profile

organisations (Gupta et al., 2008; Loderer & Peyer, 2002). These professional benefits obtained from prestigious firms may enable directors to monitor managerial actions efficiently instead of being influenced by management and hence, play active roles in minimizing agency conflicts. Alternatively, the experience and information derived from non-prestigious firms (non-listed and family firms) may be less useful for developing directors into active monitors because of their passive or smaller involvement in monitoring activities (Arosa et al., 2013; Daily & Dalton, 1994)

Moreover, prestigious directors have stronger incentives to maintain their standing as expert monitors in the market for future opportunities (Fama, 1980; Fama & Jensen, 1983; Rubin & Segal, 2017). The reputational effects can influence prestigious directors to be effective in accomplishing professional responsibilities, such as monitoring management, to avoid labour market penalties (Withers et al., 2012).

Finally, directorships in prestigious firms are likely to enhance directors' reputation and provide connectivity in professions and communities (Barroso-Castro et al., 2016; Tian et al., 2011). Consequently, prestigious directors have greater opportunity for re-employment even after a forced departure (Nguyen, 2012). This opportunity tend to make them more authoritative and less dominated by management and hence, expected to be effective in managing powerful CEOs.

Taken as a whole, the above arguments suggest that prestigious multiple directors are likely to be vigilant monitors of management decisions. Prestigious directors, therefore, are unlikely to be appointed to firms in which the CEO has undue influence over the director nomination process as well as a dominating role on the corporate board (Eminet & Guedri, 2010; Shivdasani & Yermack, 1999; Zajac & Westphal, 1996). It is also expected that the

presence of directors who currently serve on prestigious boards might minimize the CEO's influence on board oversight, and that may have a positive impact on firm performance.

#### **4.4.4 Integrating Resource Dependence, Agency and Managerial Hegemony Theories**

Prior studies on MDS consider either 'benefit' (Resource Dependence) perspective of MDS (Harris & Shimizu, 2004; Lei & Deng, 2014; Sarkar & Sarkar, 2009) or 'busyness' (Agency) perspective (Ahn et al., 2010; Cashman et al., 2013; Fich & Shivdasani, 2006) and turn up with no strong empirical evidence. A more recent stream of research argues that multiple directors acquire benefits at the same time they become busy because of multiple appointments and considering these two effects mutually exclusive may produce the inconclusive findings (Clements et al., 2013; Clements et al., 2015a, 2015b). This study, therefore considers Resource Dependence, Agency and Managerial Hegemony theories together to develop a suitable research framework that provides a comprehensive basis for explaining the motives for, and effects of, having two categories of MDS (prestigious MDS and non-prestigious MDS) on the board.

The rationality behind this is that directors are appointed to a board in an attempt to meet the monitoring and resource needs of the firm, and hence serve the best interests of the organization (Withers et al., 2012). Although theoretically the agency role is different from the resource dependence role of the director, this means that they can perform both roles concurrently (Hillman et al., 2000; Johnson, Daily, & Ellstrand, 1996). In addition, expert monitoring can minimize managerial influence on the board. Based on this argument, it is expected that prestigious and/or non-prestigious multiple directors are appointed to a board either to meet the monitoring and resource needs of the firm or by the preference of a powerful CEO.



Resource Dependence theory suggests that prestigious directors are likely to contribute valuable contacts and reliable information as well as enhance the reputation of the firm. Consequently, firms with higher numbers of prestigious MDS are better able to minimize uncertainties in accessing critical resources.

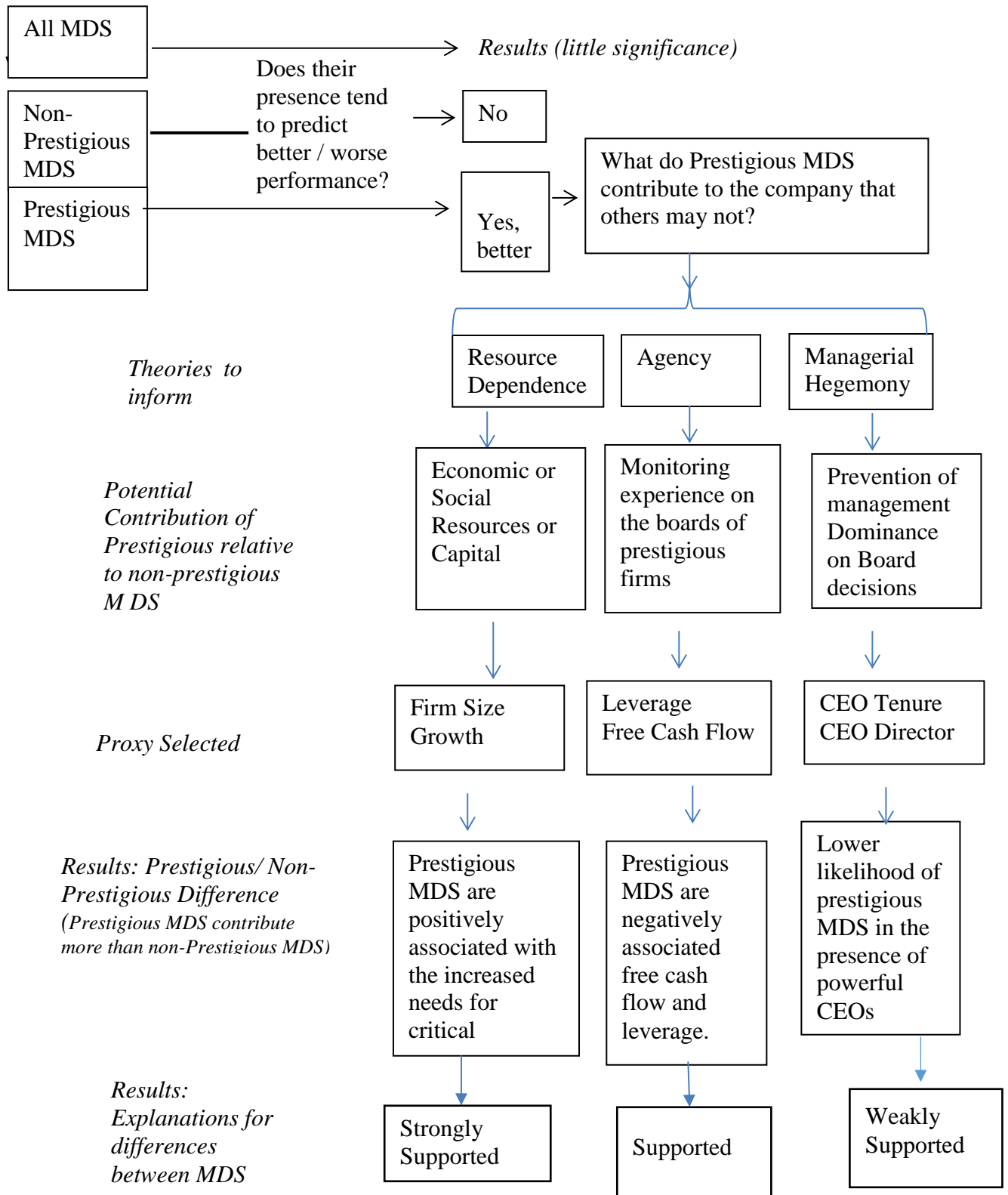
From the perspective of Agency theory, prestigious directors may be better able to minimize agency conflicts by employing the diverse and valuable knowledge, skill and expertise obtained on boards of prestigious firms. AT also suggests that directors are likely to bring valuable expertise and useful contacts from their MDS in prestigious firms that may offset the cost derived from the time pressure when serving on multiple boards.

According to Managerial Hegemony theory, prestigious directors are likely to be more knowledgeable, independent and authoritative because of having diverse skills as well as more opportunities for re-employment. This suggests that prestigious directors may be inclined to minimize undue CEO influence on board oversight. Prestigious directors, however, are unlikely to be appointed to firms having unreasonably powerful management (CEO).

Taken together, the above arguments suggest that prestigious directorships relative to non-prestigious directorships may enhance the ability of the directors to offer premium monitoring and resource services to governing boards. Similarly, prestigious directors are expected to act as active monitors instead of being influenced by powerful CEOs. This suggests that the choice between prestigious and non-prestigious MDS on the board is explainable from these three theoretical perspectives. These theories together, therefore, are expected to provide a useful basis for examining firm 'performance' differences between two categories (prestigious and non-prestigious) of MDS and to explore why these differences may exist. At the same time, this theoretical foundation will enable exploration of richer insights into MDS, resolving some seemingly contradictory evidence of prior studies.

The following section develops hypotheses based on the research framework developed by combining RDT, AT and MHT, shown in Figure 4.1

**Figure 4.1 Research Framework**



## **DEVELOPMENT OF HYPOTHESES**

The hypotheses developed in this section, firstly, address whether there are firm ‘performance’ differences between prestigious MDS and non-prestigious MDS. Afterward, hypotheses are developed to explore the theoretically-informed firm-specific characteristics that explain the differences between prestigious MDS directorships and non-prestigious MDS on a given board.

### **4.5 Firm Performance and MDS**

Empirical findings of prior studies examining the effects of MDS on corporate performance are mixed, with no clear consensus (Ferris et al., 2003; Fich & Shivdasani, 2006; Field et al., 2013; Lei & Deng, 2014; Lu, Wang, & Dong, 2013). However, prior research on MDS has not explored questions of ‘whether there are differences between different categories of MDS’, or of ‘whether these differences have influence on firm performance’. This study argues that there are, indeed, ‘prestige’ related differences present between MDS and that these differences will influence board performance and thus the firm’s performance.

This is based on the argument that MDS of different types of organizations are not equal in terms of benefits/costs derived from that position and hence, their effects on corporate performance are likely to be different. Directors with higher numbers of MDS in prestigious firms relative to non-prestigious firms have more potential to bring valuable expertise and important connections to the firm. Therefore, it is expected that prestigious directors compared to their counterparts serving on the boards of non-prestigious firms are more effective in minimizing uncertainties in accessing resources and agency conflicts as well as CEO influence on board oversight, which may have a direct positive impact on firm performance.

Thus, the aim of the first part of this thesis is to examine the relation between two categories of MDS and firm performance. The analysis aims to answer two questions. First,

are firms with a higher or lower number or proportion of prestigious MDS/ non-prestigious MDS associated with better or worse accounting firm performance? Second, are firms with a higher or lower number or proportion of prestigious MDS/ non-prestigious MDS associated with better or worse market firm performance?

The following sections develop hypotheses to test this relationship.

#### **4.5.1 Prestige, MDS and Performance**

Directors are likely to acquire beneficial experience and useful contacting networks as well as valuable information when serving on the boards of prestigious firms relative to non-prestigious firms (Clements et al., 2015a; Gupta et al., 2008). In addition, MDS in prestigious firms may enhance directors' reputations and certification abilities (visibility) in the profession and community (Barroso-Castro et al., 2016). The following paragraphs which build upon resource-dependency, agency and managerial hegemony theories, analyse how firms benefit from prestigious MDS compared to non-prestigious MDS,

From the perspective of RDT, firms with a higher number of prestigious MDS on the board are better able to develop advantageous and stable contracting relations with their dependent firms, which may minimize the uncertainty associated with acquisition of critical resources (Carpenter & Westphal, 2001; Kor & Sundaramurthy, 2009; Tian et al., 2011). Secondly, firms can establish legitimacy and enhance their reputation by appointing prestigious directors as they are connected to other organizations with established business reputations; that may serve as a prerequisite for securing resources and obtaining support from influential agents or external stakeholders that may be critical to the organization's performance (Barroso-Castro et al., 2016; Kiel & Nicholson, 2006; Mizruchi, 1996). Finally, prestigious directors are likely to provide better advice on critical strategic issues of the firm in light of the information and experience that they gain from other firms (Hillman et al., 2000; Westphal, 1999; Westphal

& Fredrickson, 2001). Altogether, the above arguments suggest that prestigious MDS help to raise both visibility (legitimacy) and external connectivity of the firm that could initiate profitable business relations and hence, yield economic benefits to the firm.

From the perspective of AT, directors are likely to obtain higher levels of general human capital, relevant information and specific knowledge of current strategies and governance issues from board memberships in prestigious organizations compared to non-prestigious organizations. This suggests that directors with prestigious MDS are better able to help perform boards' role of monitoring management (Khanna et al., 2014; Withers et al., 2012). Furthermore, prestigious directors are likely to be more concerned to maintain their standing as expert monitors in the market for future opportunities, which may motivate them to monitor management performance at an optimum level (Fama, 1980; Fama & Jensen, 1983). This suggests that prestigious directors can contribute more to the efficiency of the board's role of managing agency conflicts and help produce better financial outcomes.

From the perspective of MHT, directors who are serving on boards of prestigious firms are more exposed to the variety of strategic and governance issues that public firms face, and hence may be better able to independently review the impact of management's proposals and decisions on shareholders' wealth. In addition, prestigious directors are likely to have more opportunity for re-employment, hence are unlikely to compromise their professional reputation by acting as management co-opted directors (Ferris et al., 2016; Nguyen, 2012). This suggests that corporate boards having increased numbers of prestigious directors may achieve the benefits of reduced CEO influence, which in turn may enhance firm performance.

#### **4.5.2 Hypotheses: Accounting and Market Performance**

Several studies have found a positive relationship between directors serving different types of high profile organizations and firm performance. For instance, Loderer and Peyer

(2002) find that multiple directorships of listed firms are associated with better firm performance, while directorships in non-listed firms are negatively associated with corporate performance. Mizruchi and Stearns, in a series of studies, document that firms gain improved credit access by adding financial representatives to the board (Mizruchi, 1996; Mizruchi & Stearns, 1988; Stearns & Mizruchi, 1993).

Based on the arguments developed on theories as well empirical findings regarding the relationship between MDS and corporate performance, this study predicts that firm performance (both accounting and market) improves in the presence of an increased number or proportion of prestigious directors /MDS on the board, while there is no significant relationship between the numbers or proportion of non-prestigious directors /MDS and corporate performance.

Thus, the first hypothesis ( $H_1$ ) is formulated as follows:

**Hypothesis H<sub>1</sub>:** The association between prestigious MDS and firm accounting performance is stronger than that between non-prestigious MDS and firm performance (both current and future).

The second hypothesis ( $H_2$ ) is related to market performance of the firm:

**Hypothesis H<sub>2</sub>:** The association between prestigious MDS and firm market performance is stronger than that between non-prestigious MDS and firm performance (both current and future).

## **4.6 Theoretical Determinants of MDS**

The first part of this study examines the ‘performance’ differences between prestigious MDS and non-prestigious MDS and finds empirical support that prestigious MDS on the board are associated with better firm performance, while there is a negative or no significant impact of non-prestigious MDS on firm performance. The empirical findings, therefore, prompt the question of what explains the differences between prestigious MDS directorships and non-prestigious MDS on a given board.

Based on this, the second part of this thesis examines the theoretical determinants of the two categories of MDS. Although the term ‘determinants’ is used, it is difficult to establish the ‘determinants’ in reality. Hence, the purpose is to understand the theoretically-informed firm-specific characteristics that are associated with directorship choices (prestigious vs non-prestigious) on a given board. That is, the second part aims to test the ‘association’ between two categories of MDS and theoretically-informed firm characteristics instead of ‘causality’.

In order to explore the possible determinants of these two categories MDS, a number of firm-specific characteristics are considered that could explain their presence. From each theoretical perspective, two measures are selected that are expected to proxy the phenomena and be associated with MDS.

### **4.6.1. Resource Dependence Determinants**

Prior research suggests that firms experiencing higher levels of environmental uncertainty in accessing resources may benefit from having directors who have faster access to critical resources and timely information (Lynall, Golden, & Hillman, 2003; Pfeffer & Salancik, 1978). According to RDT, prestigious directors or directorships on the board lead to the benefits of easier acquisition of critical resources and reduced uncertainty. This suggests that firms’ needs for external linkages could be influenced by their level of dependence on

acquiring required resources, and consequently is expected to be associated with the choice between two categories of MDS of the board.

The extent to which a firm depends on the environment for resources is primarily determined by its particular characteristics that influence its need for resources (Arnegger et al., 2014; Hillman et al., 2009). Some firms may experience higher levels of uncertainties from external contingencies because they need more resources to support their activities than other firms. Two firm characteristics, firm size and growth opportunity, are expected to be associated with firms' levels of external dependence for required resources. These are discussed in the following sub-sections.

#### **4.6.1.1 Firm Size**

'Firm size' is identified as one of the measures that indicates firm's level of need for critical resources, which may be associated with the board's (directors) ability in accessing resources. To begin with, larger firms are likely to be accompanied by an increased number of product lines as well as geographical segments and, hence require a greater range of resources to support these extended levels of activities (Arnegger et al., 2014; Dalton, Daily, Ellstrand, & Johnson, 1998; Kiel & Nicholson, 2003). In addition, larger firms tend to operate in a more competitive environment than smaller firms, which may enlarge the environmental complexity and the requirement for diverse links to critical interdependence (Bendickson et al., 2015; Hillman et al., 2000).

The larger degree of environmental dependence and uncertainty because of the extensive scope of operation potentially creates a demand for faster access to a greater range of critical resources (Arnegger et al., 2014; Kiel & Nicholson, 2006). These resources include capital, different kinds of expertise, channels of communication, support from external organizations and acquiring legitimacy in various fields. Thus, directors who are better able to



develop strong links with the environment and to outsmart resource markets may act to meet an increased demand for a diverse range of resources by larger firms and, hence enhance the likelihood of firm survival (Markarian & Parbonetti, 2007).

Prior research also suggests that CEOs of larger firms which are operating in multiple segments (complex firms) need better advice and counsel from boards to cope effectively with uncertainty. Thus, larger firms may benefit from selecting those directors who can bring valuable experience and expertise to the board (Coles, Daniel, & Naveen, 2012; Dalton et al., 1998; Hermalin & Weisbach, 1988; Klein, 1998). This suggests that prestigious directors are of high importance to larger firms since they bring valuable expertise and potential networks that could meet the increased demand for critical resources from being large.

This is, however, not to say that small firms do not experience uncertainties associated with resource dependence; instead, the argument is that these issues are likely to be more evident in larger firms. This suggests that appointing directors who serve on an increased number of prestigious boards may not be cost-effective for smaller firms.

Based on this foundation, this study predicts that the number or proportion of prestigious MDS on the board increases with firm size while the relation between the number or proportion of non-prestigious MDS and firm size may not be significant. The empirical findings of Clements et al. (2015a); Clements et al. (2015b) and Kim (2013) are consistent with this prediction.

The third hypothesis, (H<sub>3</sub>) is formulated as follows:

**Hypothesis H<sub>3</sub>:** Firm size is positively associated with the number or proportion of prestigious MDS, relative to the number or proportion of non-prestigious MDS on the board.

#### **4.6.1.2 Growth Opportunity**

Growth opportunity is an organizational outcome, primarily influenced by the degree of effectiveness and capability of a firm to acquire required critical resources, access to the product market and the supply of human capital (Morrison, Breen, & Ali, 2003; Zhou & De Wit, 2009). A firm's growth potential, therefore, may increase the scope of uncertainty and environmental dependence and firms may need a diverse range of resources to facilitate and secure further growth (Hillman & Dalziel, 2003; Kor & Sundaramurthy, 2009).

In particular, growing firms need relatively more financial resources (capital) to support their innovative activities to pursue new growth opportunities (Katila & Shane, 2005; Zahra, 1991). Prior research suggests that directors who can connect the firm with important entities in the external environment are better able to promote growth by supporting the acquisition of critical resources such as raw materials and capital with improved terms of contracts (Hillman et al., 2000; Kim, 2005; Peng, 2004).

A firm's growth is also influenced by its capability to enter into product and service markets as well as track and respond to customers' needs and preferences (Zhou & De Wit, 2009). As a result, growing firms have an increased need for directors who are able to help firms to capture product/service markets by understanding customer preference. Directors who serve on the boards of prestigious firms may become increasingly important to these firms, not only for their preferential access to resource and information network but also for their ability to build legitimacy for the firm.

Prestigious directors may lend their expertise and connectivity to enhance a firm's growth by helping access to the product market in a number of ways: representing their organizations to the potential target groups (Zahra & Pearce, 1989); providing access to quality information, such as knowledge of the industry and its trends, market conditions, general

business environment and regulatory changes (Kiel & Nicholson, 2006); or serving as channels for communicating important information between external organizations and the firm (Barroso-Castro et al., 2016; Kim, 2005).

Further, prior research suggests that growth opportunity is enhanced by future investment decisions which are dependent on the firm's discretionary expenditure by management (Jeanjean & Stolowy, 2009; Orr, Emanuel, & Wong, 2005). The board can play an important role by providing valuable advice and counsel to support the manager's proposals to maintain and develop growth (Chen, 2009). The ability of directors to provide better advice and counsel to management is primarily developed from their experience in the strategic decision making process of other firms (Clements et al., 2015a; Kor & Sundaramurthy, 2009). Firms having higher growth opportunities, therefore, are likely to benefit from directors who can bring considerable working knowledge, skill and expertise to the board. Multiple directors are better able to bring these resources to the board from their experiences in prestigious firms (Gupta et al., 2008).

The above arguments suggest that growth opportunity is another important firm characteristic that affects the levels of external dependence and uncertainties. As a result, growing firms may have an increased need for directors who are able to help a firm to promote growth through their knowledge, prestige, and connectivity in professions and communities. Prestigious MDS would be suitable to meet the need of growing firms by providing expertise in and linkages to critical interdependence in the environment. These directors have the potential to ensure growth by reducing external uncertainties through increased sales revenue, product cost reduction, or improvement in profitability. Growing firms, therefore, are likely to benefit from prestigious directors, which in turn may result in an increased number of prestigious MDS on the board of a growing firm.

Based on these arguments, this study predicts that the number or proportion of prestigious MDS on the board increases with firms' growth opportunity. The empirical evidence of Ferris and Jagannathan (2001), Chen (2008) and Kor and Sundaramurthy (2009) is consistent with this prediction.

The fourth hypothesis, (H<sub>4</sub>) is formulated as follows:

**Hypothesis H<sub>4</sub>:** Growth opportunity is positively associated with the number or proportion of prestigious MDS, relative to the number or proportion of non-prestigious MDS on the board.

#### **4.6.2 Agency Theory Determinants**

This study asserts that having directors with prestigious board memberships on the board may act as a monitoring mechanism to minimize agency conflicts, which in turn may result in reduced agency costs. This is consistent with the view of Agency theory that boards with experienced and qualified directors (vigilant monitors) are better able to mitigate agency conflicts (Adams et al., 2010; Nicholson & Kiel, 2004). This suggests that the choice between the two categories of MDS may be associated with firms' specific monitoring requirements or the level of agency conflicts experienced by the firm.

To test the hypotheses of AT in relation to MDS, this study identifies two firm characteristics that are found to be associated with the level of agency conflicts in existing research and are expected to be associated with the choice between prestigious MDS and non-prestigious MDS. These are Leverage and Free Cash Flow (FCF).

##### **4.6.2.1 Leverage**

Prior research argues that leverage (debt) can serve as a monitoring mechanism that may be useful in minimizing agency costs of free cash flow available for spending at the

discretion of managers (Bathala & Rao, 1995; Harris & Raviv, 1991; Jensen, 1986). Debt in the capital structure may reduce agency costs in several ways: use of debt as well as interest payments to debt holders is likely to reduce the amount of FCF available for managers (Jensen, 1986; Stulz, 1990). Decreased levels of FCF may prevent managers from over-investing, often in negative NPV projects (D'Mello & Miranda, 2010; Harvey, Lins, & Roper, 2004). In addition, managers of firms which have higher levels of debt are likely to be monitored additionally by financial institutions, such as banks. This is to make sure that their projects are profitable so that these firms can repay their obligations at maturity (Ang, Cole, & Lin, 2000).

Moreover, Jensen (1986) also suggests that increased leverage may be associated with the threat of bankruptcy, that is, a higher level of leverage is likely to be associated with the increase in agency costs of debt. From the perspectives of managers, however, the threat of bankruptcy may compel managers to run their business profitably to avoid the risk of losing their jobs in the event of liquidation of the firm (Grossman & Hart, 1982). This may also prevent managers from exploiting the resources of the business. Leverage can motivate managers to create value for shareholders, hence management performance of highly leveraged firms may need a lower level of monitoring by the board.

All these arguments suggest that leverage can serve as an effective mechanism for monitoring management and help in minimizing agency conflicts. Accordingly, leverage and prestigious MDS may be considered as substitute mechanisms for controlling agency conflicts. Hence, firms with a higher level of leverage may not need to appoint expert monitors, such as prestigious directors. That is, the demand for prestigious directors/ MDS on the board as a mechanism for monitoring management, therefore, may be influenced by, or benefit from, the extent to which firms employ alternative monitoring mechanisms to control agency conflicts (Bathala & Rao, 1995). This suggests that firms having other monitoring mechanisms available, such as leverage or debt which mitigates the non-value maximizing activities, may

have less need to add other monitoring mechanisms, such as prestigious directors. This suggests that highly leveraged firms are less likely to appoint highly paid professional directors, for example, directors who are serving on the boards of prestigious firms.

Another reason to suggest a lower level of prestigious MDS in highly leveraged firms is that prestigious directors would be more concerned to protect their professional reputation as vigilant monitors because of aggravated costs of reputational damage (Fama, 1980; Fama & Jensen, 1983; Ferris et al., 2016; Rubin & Segal, 2017). The failure of a company tends to affect directors' reputations adversely, indicating directors' failure to monitor management performance effectively. The threat of bankruptcy of highly leveraged firms, therefore, may demotivate prestigious directors from accepting directorships of companies having higher default risk because of a higher percentage of debt in the capital structure.

Based on these arguments, this study predicts that the number or proportion of prestigious MDS on the board decreases with leverage.

The fifth hypothesis, (H<sub>5</sub>) is formulated as follows:

**Hypothesis H<sub>5</sub>:** Leverage is negatively associated with the number or proportion of prestigious MDS, relative to the number or proportion of non-prestigious MDS on the board.

#### **4.6.2.2 Free Cash Flow**

Free cash flow (FCF) is defined as the cash flow in excess of that required to fund all projects that have positive present value (NPV) (Jensen, 1986, p. 323). Free cash flow represents idle cash (defined as 'private benefits') as allocation of this financial resource is determined at management's discretion (Wang, 2010), and is therefore identified as one of the factors that stimulate the divergence between management and shareholders. Prior research argues that there would be the possibility of wastage of financial resources as well as inefficiency of management because of the higher amount of free cash flow; hence, resulting

in an increase in agency costs (Adams & Ferreira, 2007; Boone et al., 2007; Jensen, 1986; Linck et al., 2008; Pathan & Skully, 2010)

Agency costs of free cash flow may arise from the inefficiency of corporate boards to allocate the free cash flow (Brush, Bromiley, & Hendrickx, 2000; Wang, 2010). This means that corporate boards support policies initiated in favour of management's interest at the expense of shareholder's wealth. It suggests that effective monitoring of management decisions by the board can reduce agency costs arising from free cash flow. Firms having directors with better monitoring capability, therefore, may experience a lower level of agency costs derived from free cash flow.

Drawing on Agency theory, prestigious directors are likely to have experience of contemporary strategic and governance problems faced by other prestigious firms and board-level techniques to deal with these problems as well as associated implementation challenges. In addition, prestigious directors are likely to evaluate management proposals carefully and are unlikely to approve those that result in reputational loss. Hence, prestigious multiple directors are better able to limit the exercise of managerial discretion, which may lessen the possibility of wastage of financial resources.

Consistent with this view, several studies including Weisbach (1988), Cotter, Shivdasani, and Zenner (1997), McWilliams and Sen (1997), Peasnell, Pope, and Young (2001), Coles and Hesterly (2000) and Perry and Shivdasani (2005) have documented evidence of a negative link between better monitoring capability of directors and the level of agency costs. This suggests that more representation of prestigious MDS on the board, therefore, is expected to be associated with a lower level of agency costs of free cash flow.

Based on these arguments and empirical findings, this study predicts a negative relationship between prestigious MDS and free cash flow available to managers.

The sixth hypothesis, (H<sub>6</sub>) is formulated as follows:

**Hypothesis H<sub>6</sub>:** Free cash flow is negatively associated with the number or proportion of prestigious MDS, relative to the number or proportion of non-prestigious MDS on the board.

#### 4.6.3 Managerial Hegemony Determinants

Prior research frequently considers the role of powerful CEOs in determining board elements such as board structure as well as leadership structure<sup>8</sup> (Arthur, 2001; Boone et al., 2007; Hermalin & Weisbach, 1998; Linck et al., 2008; Pathan & Skully, 2010). That is, CEO power has become one of the important factors that determines the extent of board level monitoring (Eminet & Guedri, 2010; Finkelstein, Hambrick, & Cannella, 2009; Withers et al., 2012). It implies that any element of the board that influences its level of monitoring may be driven by the self-interests of powerful individuals within the organization.

This study argues that prestigious directors are better able to minimize CEO influence on board-level decision-making compared to those serving on the boards of non-prestigious firms. This suggests that having prestigious directors on the board can serve as one of the important mechanisms to monitor management performance at an optimum level. Based on this, it is arguable that the choice between prestigious and non-prestigious MDS may be influenced by CEO power. Boone et al. (2007), Linck et al. (2008) and Pathan and Skully (2010) present similar arguments.

CEO power (also known as CEO bargaining power in the literature) effectively derives from his/her perceived ability to influence key decisions of their firms (Adams, Almeida, & Ferreira, 2005; Hermalin & Weisbach, 1998; Linck et al., 2008). CEO characteristics, CEO tenure and CEO director, are found in existing research to be associated with his/her perceived

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<sup>8</sup> This concept is discussed in the prior literature under 'Negotiation Theory'.



ability and are expected to be associated with the choice between two categories of MDS. These issues are discussed below.

#### **4.6.3.1 CEO Tenure**

The perceived ability of the CEO is expected to increase with his/her tenure for a number of reasons. Dikolli, Mayew, and Nanda (2014) suggest that CEO tenure captures more certain and superior ability (p.324). A CEO with longer tenure is likely to have a higher level of firm-specific human capital that increases their entrenchment compared to a new CEO (Arthur, 2001; Hermalin & Weisbach, 1998). They further argue that the CEO becomes a 'rare commodity' when s/he achieves a higher level of entrenchment by serving a longer tenure. This means that CEOs serving longer tenure tend to become higher valuable to outside shareholders and, hence may be associated with more dismissal costs. It suggests that the tenure of a CEO is likely to be associated with their ability to influence a firm's key decisions.

Prior studies provide evidence supporting a positive relationship between CEO power and tenure (Hill & Phan, 1991; Morck, Shleifer, & Vishny, 1988). Hermalin and Weisbach (1998) also note that CEOs with longer tenure are more powerful and better able to influence the level of monitoring of the board. This means that a CEO who serves his or her position for longer may prefer a board with a lower level of monitoring in which s/he can exercise his or her power to influence the key decisions of the firm. That suggests that powerful CEOs are likely to influence the choice between MDS to exercise control over the directors as well as the level of board monitoring, hence, their firms are less likely to have directors who are expert monitors.

In contrast, there may have been a greater level of uncertainty regarding the ability of a newly appointed CEO (Arthur, 2001; Dikolli et al., 2014). This is because a newly appointed CEO is expected to have a low level of firm-specific human capital and it may take several

years to see evidence of the success of that CEO's initiatives. Consequently, shareholders are likely to demand a higher level of monitoring of a newly appointed CEO (Hermalin & Weisbach, 1988). This suggests that a newly appointed CEO may not be powerful enough to influence the choice between MDS, and hence firms with new CEOs tend to have directors with more prestigious MDS.

Consequently, this study argues that CEO tenure indicates his/ her power and predicts that the board's level of monitoring declines over the course of a CEO's tenure. Since directors with prestigious MDS are considered to be expert monitors, it is expected that the number or proportion of prestigious MDS/ directors decreases with longer CEO tenure and increases with shorter CEO tenure.

The seventh Hypothesis, (H<sub>7</sub>) is formulated as follows:

**Hypothesis H<sub>7</sub>:** CEO tenure is negatively associated with the number or proportion of Prestigious MDS, relative to the number or proportion of Non-Prestigious MDS on the board.

#### **4.6.3.2 CEO Director**

Prior research suggests that CEO board involvement (either as the chairman or as a member of the board) indicates CEO power, and hence could influence the board's monitoring ability (Adams et al., 2005; Baker & Gompers, 2003; Hermalin & Weisbach, 1998). Most of these studies concentrate on CEO duality (where the CEO and chairman is the same person) as a measure of CEO board involvement that indicates the power of the CEO. CEO duality, however, is no longer permitted among NZ firms (occasionally observed in some exceptional cases, 1.23% in 2008) following the introduction of the Best Practice Code in 2004 (Brown & Roberts, 2016; Li, 2013). This study therefore, considers CEO board memberships instead of CEO duality as a proxy for CEO power from the perspective of MHT. Board membership is

likely to empower CEOs in a number of ways that may work as an obstacle to effective monitoring.

To begin with, CEO power may come from information advantage. CEOs, by position, are likely to possess unparalleled specialized knowledge regarding the operations, the opportunities and risks faced by firms, which are important for the success of the firm (Brickley, Linck, & Coles, 1999; Finkelstein et al., 2009; Linck et al., 2008). CEO board membership allows them to participate in the board-level discussion and decision making process (Adams & Ferreira, 2007). CEOs, having detailed knowledge of an organization, are better able to influence board-level activities by controlling the information flow to other directors, which could also influence the monitoring ability of the board (Adams et al., 2005; Baker & Gompers, 2003; Hermalin & Weisbach, 2003; Pathan & Skully, 2010). Moreover, because of the information advantage of CEOs, it would be easier for them to direct the outputs of board decisions towards their own interests instead of the interests of shareholders, which, in turn, may make it harder to monitor and evaluate CEO performance by directors (Li, 2013). As a result, board membership may increase CEO power at the strategic level, and they may gain more autonomy in managing their organizations by manipulating required information.

The above arguments suggest that board membership of CEOs could be an indicator of their ability to exert power on the board process, and hence can influence the choice between MDS. This study, therefore, predicts that the level of board monitoring declines with a CEO on the board, that is, the number or proportion of prestigious MDS decreases with a CEO on the board. There is strong empirical evidence to support this prediction (e.g., Bhagat & Bolton, 2008; Brickley, Coles, & Jarrell, 1997; Carter, Simkins, & Simpson, 2003; Goyal & Park, 2002; Rechner & Dalton, 1991). The eighth hypothesis, (H<sub>8</sub>) is formulated as follows:

**Hypothesis H<sub>8</sub>:** Having CEO on the board is negatively associated with the number or proportion of prestigious MDS, relative to the number or proportion of non-prestigious MDS on the board.

**Table 4.1 Summary of Hypotheses and Predicted Relationships**

	Part: A <u>Firm Performance</u>		Part: B <u>Theoretical Determinants of MDS</u>	
	Prestigious MDS	Non-Prestigious MDS	Prestigious MDS	Non-Prestigious MDS
H <sub>1</sub> : Perf <sub>ACC</sub>	Positive	?	-	-
H <sub>2</sub> : Perf <sub>MKT</sub>	Positive	?	-	-
<u>Resource Dependence Theory</u>				
H <sub>3</sub> : Firm Size	-	-	Positive	Negative/ No significant relationship
H <sub>4</sub> : Growth opportunity	-	-	Positive	Negative/ No significant relationship
<u>Agency Theory</u>				
H <sub>5</sub> : Leverage	-	-	Negative	?
H <sub>6</sub> : Free cash flow	-	-	Negative	?
<u>Managerial Hegemony Theory</u>				
H <sub>7</sub> : CEO Tenure	-	-	Negative	?
H <sub>8</sub> : CEO Director	-	-	Negative	No significant relationship

This table shows the predicted relationships between two categories of MDS and firm performance as well as theoretically-informed firm-specific characteristics.

## **4.7 Summary**

This chapter has developed a research framework used to guide the process of data analysis. The framework is built on the theoretical insights suggested by Resource Dependence, Agency and Managerial Hegemony theories as well as findings from the prior literature. The framework and associated hypotheses (Table 4.1) imply that MDS has the potential to influence corporate performance, and these performance implications of MDS are likely to differ for the two categories of MDS: prestigious and non-prestigious. Additionally, the perspectives of resource dependence, agency and managerial hegemony theories drive the choice between MDS on the corporate board. The next chapter outlines the research methodology and discusses the techniques employed in data collection and the variables used in data analysis.

## **CHAPTER FIVE**

### **RESEARCH METHOD AND DESIGN**

#### **5.1 Introduction**

This chapter outlines the research method and design employed in this thesis including sample selection, study period, measurement of variables, regression models and sensitivity analyses. The purpose is to demonstrate the steps to be followed to test the two sets of hypotheses developed in Chapter 4. The first set of hypotheses are related to ‘performance’ differences between two categories of multiple directorships (MDS): prestigious MDS and non-prestigious MDS. The second group of hypotheses are developed to determine the theoretically-informed firm-specific characteristics that are associated with the choice between these two categories of MDS.

The remainder of the chapter is organized as follows. Sections 5.2 and 5.3 review the sample selection procedure and the process of selecting the study period. The data sources drawn on for the empirical work are outlined in section 5.4. Section 5.5 reviews proxies and the measurement of the variables of interest. Section 5.6 provides an overview of the research methods and statistical techniques employed to test the hypotheses. The regression diagnostics and robustness analyses that are conducted are explained in section 5.7 and section 5.8. The final section summarizes the chapter.

#### **5.2 Sample Selection**

There are several motivations behind selecting New Zealand as the context of this study. Prior studies examining the financial implications of MDS are mostly based on US firms (with a few from the context of other larger countries, such as the UK and Australia); however, findings generated to date have been inconclusive and contradictory. In addition, it is expected

that the causes and consequences of MDS in a geographically-constrained as well as export-dependent economy such as New Zealand would be significantly different from those in other economies; a study using the data of New Zealand firms is expected to enrich the literature by exploring valuable insights of MDS.

The sampling frame selected for this study comprises all publicly listed companies on the New Zealand Stock Exchange (NZX). The initial sample consists of all industrial firms listed on the NZX, over the period from 2005 to 2014. To be included in the sample, the firms must have information regarding multiple directorships either in the section ‘Shareholder Information’ with the heading of ‘General Disclosure of Interest given by Directors’ under section 140(2) of the Companies Act 1993 or in the ‘profiles of directors’ in the annual report. To formulate a consistent panel data set, the sample is restricted to those firms with required information regarding multiple directorships. For firms to be included in the sample, they must have required information of at least three years or more within the sample period. Finally, the sample is limited to all publicly listed companies on NZX having complete data sets for the dependent, independent and control variables from 2005 to 2014.

The sample selection process starts with the 444 firms listed in the Events section of the NZX database as at 31 December 2014. After exclusion of 98 NZDX firms for which data is not available in the NZX database, 134 firms which were delisted from the NZX before 2005, 49 firms that have not issued at least 3 annual reports since being listed on the NZX, 18 currently delisted firms that do not have at least 3 annual reports within the sample period before being delisted from the NZX and 29 firms with missing MDS indicators, the final sample comprises 116 firms. These 116 firms cover a total of 1022 firm-years (observations) with financial reporting periods ending between 1 January 2005 and 31 December 2014. This includes firms of different ages, for example, mature firms, discontinued (delisted) firms and newly started firms. Table 5.1 exhibits the sample selection procedure.

**Table 5.1 Sample Selection**

<b>Panel A: Selection Criteria</b>		Number of observations
Sample Firms		
Total firms listed on the Event section of NZX database as at 31 December 2014		444
Less NZDX firms listed on the Event section of NZX database		(98)
Less firms Delisted before 2005		(134)
Less currently listed firms not issuing at least 3 annual reports since being listed on the NZX		(49)
Less currently delisted firms not having at least 3 annual reports before being delisted from the NZX		(18)
Less firms not having MDS information available in the annual report		(29)
<i>Total firms in the Final Sample</i>		<i>116</i>
<b>Panel B: Sample Firm-Years</b>		
Number of years for which data available	No. of firms	Firm-years
10 years	79	790
9 years	5	45
8 years	8	64
7 years	6	42
6 years	4	24
5 years	6	30
4 years	3	12
3 years	5	15
<i>Total</i>	<i>116</i>	<i>1022</i>

Panel A of this table shows the procedure for derivation of sample number of firms. This study starts with all firms included in the NZX Data Company Research from 2005 to 2014 and restricts the sample to those firms that meet certain criteria (see Section 5.2). Panel B presents the distribution of the sample, showing total number of firm-years with the breakdowns into number of years and number of firms. This specifies that the number of firms is not equal over the years, which indicates that some firms had been delisted, and others are newly listed on the NZX during the 2005 to 2014 period.



### 5.3 Study Period

The sample period of this study covers a ten-year period from 2005 to 2014. NZX firms disclose detailed information regarding MDS under the heading ‘General Disclosure of Interest given by Directors’ which is prescribed by section 140(2) of the Companies Act 1993. Although this is suggested by the Companies Act 1993, it is expected that a higher number of firms would have been encouraged to disclose information on corporate governance from 2005 onward. Prior research also states that the disclosure concerning corporate governance by New Zealand listed companies has been increased after the implementation of NZX Code (Bhuiyan, 2010; Teh, 2009). The sample period (2005 to 2014), therefore starts immediately after the introduction of the NZX Corporate Governance Best Practice Code in 2004 and runs to the most recent year for which data is available within the fieldwork period.

As financial Reporting date of NZ companies varies between 31 January to 31 December, all data are for, or as of, the end of the fiscal year. Adoption of IFRS by New Zealand Companies has been mandatory since 2007 and early adoption was allowed from 2005. Therefore, IFRS has been adopted almost for the whole sample period and no separate measure is used for IFRS. In addition, the sample period of this study includes global financial crisis period. New Zealand economy, in particular, monetary policy, liquidity management and the prudential supervision is impacted between early of 2008 to the second half of 2010 because of Global Financial Crisis (GFC) (Bedford, 2008; Spencer, 2010). Based on this, 2008, 2009 and 2010 are selected as GFC period and a dummy variable is used to see the effects of GFC on performance of NZX companies. Finally, sample size in regressions may be different because of unavailability of data on several variables and missing data in measuring the relationship between MDS and long term firm performance.

Table 5.2 reports the time series of the sample. In addition, Table 5.3 (p. 146) exhibits the composition of the sample distribution by both year and industry.

**Table 5.2 Time Series of Sample**

Year	N	Percent
2005	88	8.61
2006	91	8.90
2007	95	9.30
2008	101	9.88
2009	103	10.08
2010	107	10.47
2011	108	10.57
2012	111	10.86
2013	109	10.67
2014	109	10.67
Total	<u>1022</u>	<u>100.00</u>

This table presents the time series of the sample, showing the number of firms included each year and the percentage of total observations of 116 total firms in 10 years. This indicates that later years contain more observations than former years; however, the differences are not significant.

## 5.4 Data Sources

The sample is constructed by hand-collected data on multiple directorships from two sources using annual reports extracted from the NZX Data Company Research website. Firstly, the detailed information regarding multiple directorships is primarily disclosed in a separate interest register of the board of directors under the heading of ‘General Disclosure of Interest given by Directors’ under section 140(2) of the Companies Act 1993 in the section ‘Shareholder Information’ in the annual report.

This interest register reports relevant interests of each director: (i) Directorships in subsidiary and associated entities; (ii) Directorships in other (separate) organizations including position as chairman; (iii) Non-directorship positions (Government, community and other involvements) and (iv) Shareholdings of directors in different companies. Secondly, some companies disclose information of multiple directorships in the ‘profiles of directors’ under the heading ‘Other Directorships’ instead of having a separate interest register of directors. MDS information is extracted from both sources to ensure a complete collection. The number of directorships held in other (separate) companies (mentioned as (ii) above) of all the board members of a given firm is counted excluding the directorships of subsidiary and associated entities. Non-directorship positions are counted separately.

Other required firm and governance related information is extracted from different data bases, annual reports, company website, NZX website and other public documents about listed companies on the New Zealand Exchange (NZX). The financial information of NZX listed companies is mostly obtained from Compustat as well as from annual reports. Market information is collected from the NZX Data Company Research, Datastream, and on-line data sources.

## 5.5 Measures of Variables

This section describes the operational definitions and measurement of the proxies for variables selected for the empirical tests. The following sections detail the dependent, independent (explanatory) and control variables employed in this study. In addition, the procedure of data transformation is explained in this section.

### 5.5.1 Measures of Multiple Directorships

In most prior research, '*Multiple Directorships*' (*MDS*), which refers to the practice of corporate directors serving on the boards of multiple corporations, is measured by counting the numbers of MDS. That is, the total or average (mean/ median) number of directorships held by all board members (all/ executive/ outside) of a firm during a particular year (Cashman et al., 2012; Lei & Deng, 2014; O'Sullivan, 2009; Perry & Peyer, 2005; Sarkar & Sarkar, 2009). Several studies employ the ratio of directors with MDS against the total number of directors on the board as an MDS measure (Adams & Ferreira, 2009; Brickley, Coles, & Terry, 1994; Tijani, Sanni, & Ishola, 2015). Either a person-based or a firm-based approach is followed these studies.

This study analyses firm-specific characteristics that are associated with the number or proportion of prestigious MDS as well as the number or proportion of non-prestigious MDS on a given board. This suggests a firm-based approach rather than a person-based approach. However, the board's total or average MDS cannot be determined without first calculating the individual board member's number of directorships. Therefore, the number of directorships at the individual level is determined first, and then the number of total MDS held by all the board members of a given firm in a specific period is calculated to define the board total and average number of MDS. There are two levels of measurement.

- At the individual level: Multiple directorship is assessed based on the total number of directorships held by each director.
- At the firm level: Multiple directorship is measured as the total/ average number of directorships held by all the directors on a given board (excluding alternate director)<sup>9</sup>.

After measuring MDS at firm level, this study categorizes MDS into two groups.

The following sections explain the basis for categorization and MDS categories.

### **5.5.1.1 Categorization of MDS**

As mentioned earlier, prior research on MDS has concentrated on explaining cross-sectional variation (year-to-year or firm-to-firm) in MDS. As in these studies, MDS are measured as the number of directorships held by an individual multiple director or on a corporate board. This approach is based on the assumption that all directorships are the same and each type of directorship carries equal weight (Gupta et al., 2008).

However, a recent line of studies find evidence that some MDS are likely to be better than others in terms of directors' expertise and connectivity based on certain characteristics of MDS and can produce better value for other firm settings (Clements et al., 2015a, 2015b; Gupta et al., 2008; Loderer & Peyer, 2002; Rivas, 2012). Hence, these studies claim that the approach of simply counting the number of MDS of directors or boards may be inappropriate in certain circumstances to determine the effects of MDS (Clements et al., 2015a, 2015b; Gupta et al., 2008). Based on the recent empirical finding, this study measures MDS by categorizing them into two groups based on the 'relative prestige' of appointing firms instead of simply counting the numbers of MDS.

In prior studies, the 'size' of the appointing firm has been considered as the indicator of 'prestige', that is, the directors/ directorships of larger firms are considered to be prestigious

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<sup>9</sup> Disclosure on alternate directors' interest is not frequently available in the annual reports of NZ companies.

directors/ directorships (Booth & Deli, 1996; Ferris et al., 2003; Knyazeva, Knyazeva, & Masulis, 2013; Masulis & Mobbs, 2011, 2014, 2016). However, firm size may not fully capture the aspects of ‘prestige’ that are likely to indicate directors’ better capability to perform board-level activities.

This study considers a broader perspective to measure the ‘relative prestige’ of appointing firms, leading to ‘prestige’ of multiple directors/ directorships. Relative ‘prestige’ of MDS is determined by recognizing a set of characteristics of appointing firms that may influence the level of benefits and costs that directors acquire from serving on multiple boards, such as listing status, ownership types, country of origin, reputation and industry affiliation.

The measurement of MDS is related to, rather than people, the number and types of MDS on average held by the board as a whole. Although this study considers number and types of MDS, the terms ‘prestigious MDS’ and ‘prestigious directors’ as well as ‘non-prestigious MDS’ and ‘non-prestigious directors’ are used interchangeably throughout the thesis. This is because MDS are associated with directors, and without directors, there is no MDS. The measurement procedure is shown in detail with an illustration in Table 5.5 (p. 147).

#### **5.5.1.2 Measurement of Prestigious and Non-Prestigious MDS**

The first category is labelled ‘prestigious MDS’, which includes directorships in banks, companies listed on NZX and ASX, Top 100 NZ Companies, Multinational Companies (MNC), State-owned Companies, Crown Companies, Crown agents, and market related regulatory organisations. The second category contains directorships of non-listed, family and other firms, termed ‘non-prestigious MDS’. There are two types of measurement:

- Prestigious MDS are measured as the total/ average number of directorships in prestigious firms held by the board of a given firm in a specific period.

- Non-prestigious MDS are measured as the total/ average number of directorships in non-prestigious firms held by the board of a given firm in a specific period.

The same measures of two categories of MDS are used as the explanatory variables in the firm performance models (*Panel B of Table 5.5*) and as the dependent variables (*Panel A of Table 5.6*) in the determinants of MDS models.

### **5.5.2 Measures of Firm Performance**

Although a wide variety of measures are employed in the literature to indicate the financial aspect of firm performance (i.e., financial performance), commonly used measures are either accounting-based measures of profitability such as Return on Assets, Return on Sales, and Return on Equity, or stock market-based measures such as Tobin's Q and Stock Return. In order to test the relationship between two categories of MDS and firm performance, this study employs both categories of measures. Firm performance measures of current year (t) as well as future years, t+1, t+2 and t+3 are also employed to test both short-term and long-term performance implications of MDS. The proxies used for firm performance are listed in *Panel A of Table 5.5*.

Accounting-based measures reflect the profitability level and are widely accepted as valid indicators of past or short-term financial performance of a firm (Gentry & Shen, 2010). This study uses two alternative proxies: Return on Assets (ROA) and Return on Equity (ROE). The ROA indicates management's efficiency in using the firm's assets to generate earnings, computed as net income before interest and tax as a percentage of average total assets. The ROE measures the profitability of an organization by revealing the amount of profit a company generates with the money invested by shareholders, which is measured as net income after tax as a percentage of average shareholder's equity. In addition, the profit margin (Margin) is employed to check the robustness of the results. The margin is pre-tax operating profit (EBIT)

as a percentage of sales, which indicates how effectively a company can convert sales into net income.

Market-based measures reflect the expectation of the market (investors) on firm performance in the future. That is, they indicate the future or long-term financial performance of the firm. Firm market performance is determined by the valuation of the share price of the firm by investors. This study employs Tobin's Q ratio (Q) and the Stock Return (R) to proxy market-based firm performance. Q is the ratio of the market value of a firm's assets to the minimum replacement cost of the assets. The ratio is approximated by taking the ratio of (i) the market value of the assets as the sum of market value of equity, market value of preference share capital, book value of convertible debt and book value of debt, and (ii) the minimum replacement cost of the assets as measured by the book value of total assets (Lindenberg & Ross, 1981). R is the mean annual stock return over 12 months preceding the financial year end.

### **5.5.3 Data Transformation**

Both multiple directorships and firm performance are transformed using the 'inverse hyperbolic sine' (IHS) function [ $\sinh^{-1}(x)$ ]. Instead of using the logarithmic function, the arcsinh function is used as it can accommodate negative and zero values. Measures of both MDS and firm performance contain zero and negative values.

To fulfil the OLS assumptions, IHS function is used to stabilize the variance of the error term in the regression equation (Sokal & Rohlf, 1981, p. 859). The transformation, therefore, helps to reduce the problem with skewness and heteroscedasticity.

Research suggests that interpreting results with log transformation data may be challenging, in particular when log transformation is made on either left-hand side variable or right hand side variables (semi-log) and need read back to the transformation. When both



dependent variables and independent variables are log transformation (log-log), the estimated co-efficient are directly interpretable in the same way as the actual value of variables (Bellemare, 2016; Kennedy, 1981).

In the first model, both dependent variables and independent variables are transformed by IHS. In the second model, dependent variables are transformed using IHS and most of the independent variables are with log. As independent variables of second model do not contain zero or negative values, they are similar to IHS transformation. This is because IHS behaves like a log but allows keeping zero and negative values. This suggests that transformation of variables using two different methods (similar behaviour) may not affect the interpretation of results.

#### **5.5.4 Measures of Theoretically-informed Explanatory Variables**

The explanatory variables of the determinants of MDS models are theoretically-informed firm-specific characteristics that are associated with the differences between two categories of directorship choices (prestigious vs non-prestigious) on a given board. The following subsections describe the firm and governance characteristics that are identified as the determinants of MDS from the perspectives of three governance theories, namely, Resource Dependence Theory (RDT), Agency Theory (AT) and Managerial Hegemony Theory (MHT). These include Firm Size, Growth opportunity, Leverage, Free Cash Flow, CEO Tenure and CEO Director, which are explained in *Panel B of Table 5.6*.

##### **5.5.4.1 Firm Size (Size)**

‘Firm size’ is identified as one of the determinants of two categories of MDS from the perspective of Resource Dependence theory. Although there is no precise definition of ‘firm size’, it refers to the ‘scale’ of operation. The potential measures of organization size (scale) employed in the existing literature include both accounting-based measures, such as, total

assets and total revenue and market-based measures, such as market capitalization. Also, several studies use the number of employees as measure of the size of the firm which indicates structural differentiation of the firm (Arnegger et al., 2014; Huse, 2007).

Prior literature suggests that the market measures would be noisy relative to accounting based measures to proxy the ‘scale’ of the firm (Baker & Hall, 2004; Bhagat, Bolton, & Lu, 2015). Although, by definition, sales revenue should not be negative, several NZX firms of some industries (investment, finance, etc.) often report negative revenue in the income statement after adjusting revaluation loss. Sales revenue as the measure of firm size, therefore, may not be appropriate for NZX firms. This study, therefore, uses annual total assets as at the balance date to proxy the firm size (*First row of Panel B of Table 5.6*). The natural logarithm is used to minimize the skewness, and hence make the distribution close to a normal distribution.

#### **5.5.4.2 Growth Opportunity (Growth)**

The second measure of Resource Dependence theory is ‘growth opportunity’. Business or firm growth refers to the expansion of the size of a firm or business over time (Zhou & De Wit, 2009). The measures used in the literature to indicate the growth opportunity of a firm include sales growth, Market-to-Book Ratio (MTB) and Research and Development (R&D) expenditures (Linck et al., 2008). R&D expenditure is not frequently available within the annual reports of sample firms. Consistent with Orr et al. (2005) and Dunstan, Keeper, Truong, and Van Zijl (2011), this study uses the actual value of Growth opportunity (*Second row of Panel B of Table 5.6*), which is measured by the ratio of the value of growth opportunities to the market value of the firm. The market value of the firm is measured by the market value of equities plus the book value of total liabilities, and the value growth opportunities is the difference between the market value of the firm and the book value of total assets.

#### **5.5.4.3 Leverage (Leverage)**

Prior research suggests that leverage (debt) can serve as a monitoring mechanism that may be useful in minimizing the agency costs of free cash flow available for spending at the discretion of managers (Jensen, 1986, p. 323). Based on this, leverage is considered as one of the determinants of MDS of two categories from the perspective of Agency theory. A commonly used measure for leverage is total debt over total assets (Coles, Daniel, & Naveen, 2008; Coles et al., 2012; Ferreira & Laux, 2007). Several studies also prefer to use long-term debt over total assets as a measure of leverage.

Because of the competitive product market, New Zealand firms are likely to use a larger proportion of debt in the capital structure (Smith, 2011). This includes both short-term and long-term debt (the median ratio of short-term debt to total debt is 47.6%). Also, some companies (138 firm-years) in the sample do not use long term debt. This study, therefore, uses total debt over total assets as the measure of leverage (*Third row of Panel B of Table 5.6*).

Although theoretically, the ratio of total liabilities to total assets should not be greater than 1, some companies in this sample (40 firm-years) have more liabilities than total assets. To avoid abnormality in the results of data analysis, those values are converted into 1 (Maximum Leverage is 1). The natural logarithm is used.

#### **5.5.4.4 Free Cash Flow (FCF)**

From the perspective of Agency theory, ‘free cash flow’ is identified as another determinant of MDS. Free cash flow is defined as the cash flow in excess of that required to fund all projects that have net positive present value (NPV) (Jensen, 1986). As there is no standard measure of free cash flow as defined by Jensen (1986), several proxies have been employed in the literature to measure FCF (Gul & Tsui, 1997). For example, one measure of free cash flow is the difference between operating cash flow and net capital investments (Boone

et al., 2007; Monem, 2013). Alternatively, free cash flow is defined as the operating income before depreciation minus taxes, interest expenses, preferred dividends, and ordinary dividends (Gul & Tsui, 1997; Lang, Stulz, & Walkling, 1991). Based on the definition and data availability, this study uses the former one to proxy free cash flow (*Fourth row of Panel B of Table 5.6*), that is, the operating cash flow less net capital investments during the year, which is scaled by the book value of total assets at the beginning of each year.

#### **5.5.4.5 CEO Tenure (CeoTenure)**

According to Managerial Hegemony theory, CEO power is considered as a key determinant of two categories of MDS. CEO power refers to CEO bargaining power in the literature which is primarily derived from his/her perceived ability to influence key decisions of their firms (Adams et al., 2005; Dikolli et al., 2014; Hermalin & Weisbach, 1998). CEO tenure is the most popular proxy measure for CEO power (Boone et al., 2007; Guest, 2008; Hermalin & Weisbach, 1998; Linck et al., 2008; Pathan & Skully, 2010). CEO tenure is calculated as the number of years spent as the CEO in that organization (*Fifth row of Panel B of Table 5.6*).

#### **5.5.4.6 CEO Director (CeoDirector)**

CEO director is considered as another proxy for CEO power from the perspective of Managerial Hegemony theory. A binary measure is used to identify firms that have a CEO on the board from those that do not (*Sixth row of Panel B of Table 5.6*). If a firm has a CEO as a board member, it is coded as 1, and firms which have their CEO off the board are coded as 0.

In order to identify the person working as CEO in this sample, this study follows the methods applied by (Li, 2013). That is, an employee is defined as a CEO when his or her name is explicitly disclosed with the title of CEO in the annual report; if no person's name is mentioned as CEO, the managing director is recorded as the CEO; if no managing director is

found, the general manager is considered as the CEO. When a CEO serves on the board holding the title of a director, he/she is said to be a board member in that company.

#### **5.5.4 Measures of Control Variables**

Some other variables (both firm and governance) that are not variables of primary interest may influence the hypothesized relationships. Several control variables, therefore, are included in both sets of regressions to ensure that the models are not mis-specified. The following subsections present measurement of control variables.

##### **5.5.4.1 Control Variables of Performance Models**

In order to identify the precise effect of two categories of MDS on firm performance, this study controls for a number of variables in both accounting and market performance models, which are listed in *Panel C of Table 5.5*. Following prior studies (Ahn et al., 2010; Cashman et al., 2012; Fich & Shivdasani, 2006; Field et al., 2013; Pathan & Faff, 2013), firm size (Size), firm age (Age) and leverage (Leverage) are expected to be associated with both categories of corporate performance. Firm size is measured as the natural logarithm of the end of year firm's total assets, Firm age is measured as the natural logarithm of listing tenure, and leverage is calculated as the natural logarithm of total liabilities over total assets at the end of the financial year. Finally, industry dummies are included as a control variable in both models.

In addition, board size (BoardSize), proportion of outside directors (OutsideDir), and an additional control variable, performance of the current year ( $Perf_t$ ), measured by respective performance variables ( $ROA_t$  and  $ROE_t$ ) is included as one of the right-hand side variables in each future years' accounting performance regressions. In addition, three binary variables are included in the accounting performance models. A binary variable, *GFC* is included as a control to assess how the financial crisis influenced the relationship between MDS and firm performance; it equals 1 if the period is either 2008 or 2009 or 2010, otherwise 0. A binary

variable, *HighLevg*, which equals 1 if the leverage of a firm is  $> 0.8$ , otherwise 0, is included to identify the different pattern of relationship between MDS and firm performance (if any) of firms having high leverage. Finally, another binary variable, *Loss*, which equals 1 if the firm incurs a loss during the current financial year, otherwise 0, is also included to identify the different pattern of relationship between MDS and firm performance (if any) of firms incurring loss.

In the market performance model, two additional variables, equity beta (Beta) and book-to-market (B2M), are included to control the risk factors about a firm's market performance (Klein, 1998; Lewellen, 1999). The firm's equity beta is estimated by using monthly stock returns data over the past three years (36 months) or available months (if not available for past the 36 months), and the S&P/NZX 50 total index as a proxy for market returns; book-to-market is calculated as the ratio of book value and the market capitalization of a firm's equity at the end of the financial year.

Industry Dummies: Boone et al. (2007) argue that controlling for industry effects allows accommodation of the heterogeneity factor, given that each industry shares "similar production technology and market conditions" (p. 76), and hence firms in the same industry may have a similar pattern of MDS to meet their unique needs. In the current study, industry variation is captured using industry dummies. Based on NZX industry categories<sup>10</sup>, seven dummy variables are included to control the industry affiliation of each firm/year with  $Id_j = 1$  for firm/years under industry  $j$  and 0 otherwise. 'Goods' industry is considered as the 'base industry' and hence excluded.

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<sup>10</sup> The NZX industry categorization has changed in the last year. This study follows the previous NZX industry categorization.

#### 5.5.4.2 Control Variables of Determinants Models

Following prior studies, Board Size (BoardSize), proportion of outside (non-executive) directors (OutsideDir) and Firm Performance ( $Perf_{ROA}$ ) are considered as the control variables. These variables are listed in *Panel C of Table 5.6*. This is to ensure that the regression models are able to capture the relationships between firm-specific characteristics and the number or proportion of prestigious directorships as well as the number or proportion of non-prestigious directorships on a given board.

**Board Size (BoardSize):** Generally, the number of MDS on a given board tends to increase with an increase in board size, which is also consistent with the prediction of RDT (Ferris & Jagannathan, 2001). Prior studies on MDS document that board size is positively associated with the number of directorships of a board (e.g., Cashman et al., 2012; Ferris & Jagannathan, 2001; Ferris et al., 2003; Fich & Shivdasani, 2006; Sarkar & Sarkar, 2009). This study, therefore, expects an association between board size and MDS. Board size is defined as the number of directors on the board.

**Proportion of Outside Directors (*OutsideDir*):** Generally, professional (non-executive) directors are likely to serve the board of multiple corporations. According to Sarkar and Sarkar (2009) and Roudaki and Bhuiyan (2015), the number of multiple directors/ directorships may be influenced by the number or proportion of outside directors on the board. This study controls for the proportion of outside directors which is measured as the proportion of total directors who are outside (non-executive) on the board.

**Firm Performance ( $Perf_{ROA}$ ):** Prior studies suggest that performance of a firm is largely influenced by the ability of its board to access a greater range of resources as well as an optimal level of monitoring (Hillman & Dalziel, 2003; Nicholson & Kiel, 2003). This study predicts that a firm is likely to choose between MDS to meet both monitoring and resource providing

functions. Based on that prediction it is expected that firm performance may be associated with the likelihood of prestigious MDS and/or non-prestigious MDS on the board. Firm performance is, therefore, included as a control variable. To proxy firm performance, ROA of the current year is selected, which is measured as net income before interest and tax as a percentage of average total assets. The inverse hyperbolic sine transformation is used.

Industry Dummies: Finally, seven dummy variables are included to control the industry affiliation of each firm/year with  $Id_j = 1$  for firm/years under industry  $j$  and 0 otherwise. ‘Goods’ industry is considered as the ‘base industry’ and hence excluded.

## **5.6 Research Design**

The study is based on archival data whereby quantitative historical data is collected and analysed to test the formal hypotheses. A quantitative analytical framework is adopted, employing multivariate regression models to test the hypotheses in order to make inferences about the hypothesized relationships MDS and corporate performance as well as firm-specific characteristics and MDS. The variables of interest are continuous in nature. The following subsections outline empirical models and estimation methods employed to test formally the implications and determinants hypotheses, respectively.

### **5.6.1 Empirical Models for Firm Performance**

Two sets of regression equations, Equations (1) and (2) are formulated to test empirically the hypotheses developed to examine the performance ‘differences’ between the two categories of multiple directorships: prestigious MDS (Prestg. MDS) and non-prestigious (Non-Prestg. MDS) MDS. The first set of regressions examine the association between two categories of MDS and the firm’s accounting performance ( $Perf_{ACT}$ ), measured by Return on Assets (ROA) and Return on Equity (ROE). The second set of regressions examines the



association between the two categories of MDS and the firm's market performance ( $Perf_{MKT}$ ), measured by Stock Return (R) and Tobin's Q (Q).

In order to estimate the long-term implications of MDS, performance (both categories) measures of subsequent years at times:  $t+1$ ,  $t+2$ , and  $t+3$  are employed as dependent variables:

$$Perf_{ACT\ i,t} = \alpha_0 + \beta_1 \text{Prestg. MDS}_{i,t} + \delta_1 \text{Non-Prestg. MDS}_{i,t} + \lambda_{1-8} (\text{Controls}) + \psi_{i,t} \Sigma(\text{Industry Dummies}) + \varepsilon_{i,t} \quad (1)$$

$$Perf_{MKT\ i,t} = \alpha_0 + \beta_1 \text{Prestg. MDS}_{i,t} + \delta_1 \text{Non-Prestg. MDS}_{i,t} + \lambda_{1-5} (\text{Controls}) + \psi_{i,t} \Sigma(\text{Industry Dummies}) + \varepsilon_{i,t} \quad (2)$$

where subscript  $i$  denotes the individual firm ( $i = 1, 2, \dots, 116$ ) and  $t$  refers to the time period ( $t = 2005, 2006, \dots, 2014$ );  $\beta$ ,  $\delta$ ,  $\lambda$ , and  $\psi$  are the parameters to be estimated, and  $\varepsilon$  is the idiosyncratic error term.

### 5.6.2 Empirical Models for Determinants of MDS

The second part of this study examines the firm-specific characteristics that are associated with the choice between prestigious MDS and non-prestigious MDS on a given board. The following two regression equations, Equations (3) and (4) are specified to test formally the determinants hypotheses, respectively, for prestigious MDS (Prestg. MDS) and non-prestigious MDS (Non-Prestg. MDS). The explanatory variables are firm size, growth opportunities, leverage, free cash flow, CEO tenure and CEO director. Board size, proportion of outside directors and firm performance are included as control variables.

$$\text{Prestg. MDS}_{i,t} = \lambda_0 + \beta_1 \text{Size}_{i,t} + \beta_2 \text{Growth}_{i,t} + \delta_1 \text{Leverage}_{i,t} + \delta_2 \text{FCF}_{i,t} + \alpha_1 \text{CeoTenure}_{i,t} + \alpha_2 \text{CeoDirector}_{i,t} + \text{Ø}_{1-3} (\text{Controls}) + \psi_{i,t} \Sigma(\text{Industry Dummies}) + \varepsilon_{i,t}. \quad (3)$$

$$\text{Non-Prestg. MDS}_{i,t} = \lambda_0 + \beta_1 \text{Size}_{i,t} + \beta_2 \text{Growth}_{i,t} + \delta_1 \text{Leverage}_{i,t} + \delta_2 \text{FCF}_{i,t} + \alpha_1 \text{CeoTenure}_{i,t} + \alpha_2 \text{CeoDirector}_{i,t} + \text{Ø}_{1-3} (\text{Controls}) + \psi_{i,t} \Sigma(\text{Industry Dummies}) + \varepsilon_{i,t}. \quad (4)$$

where subscripts  $i$  denotes the individual firm ( $i = 1, 2, \dots, 116$ ) and  $t$  refers to the time period ( $t = 2005, 2006, \dots, 2014$ );  $\beta$ ,  $\delta$ ,  $\alpha$ ,  $\text{Ø}$  and  $\psi$  are the parameters to be estimated, and  $\varepsilon$  is the idiosyncratic error term.

The definitions of the variables, data sources, and transformation techniques employed in Equations. (1)– (4) are listed in Tables 5.5 and 5.6.

### 5.6.3 Estimation Methods

Ordinary Least Squares (OLS) regression models are employed for both sets of tests. The regression models rely on  $p$ -values that account for two dimensional clusters, by both panels (i.e., by firms ( $i$ ) and time period ( $t$ )) to address random unobserved serial and cross-sectional correlation respectively (if any) in residuals (Petersen, 2009). Panel data methodology is used to analyse the longitudinal data.

In addition, several alternative methods are employed in both sets of analysis to address different econometric issues related to quantitative analysis. Firm fixed effects estimation and the first-difference estimation for a regression of  $\Delta y_{it}$  on  $\Delta x_{it}$  are employed in both parts to address the problem of omitted variables in a panel data set.

Moreover, Instrumental Variables (IV) regression analysis is conducted in the first part in order to identify a one-way causal effect of MDS on firm performance. In the second part, a

simultaneous equation model (three-stage least squares (3SLS)) is estimated in which structural models are specified as endogenizing the two categories of MDS variables.

## **5.7 Regression Diagnostics**

A number of tests are carried out in order to address the econometric issues, including the tests of multicollinearity and heteroscedasticity, and different regression techniques to test the issue of endogeneity for both parts of the data analysis.

### **5.7.1 Multicollinearity**

Multicollinearity could be a concern in a multivariate setting in which two or more independent variables are highly correlated. As a result of multicollinearity, coefficient estimates may change substantially in response to small changes in the data. As a direct assessment of the presence of multicollinearity, the variance inflation factor ( $Vif$ ) for each variable of the regression equations are calculated to measure the degree of relationship among right-hand side variables (Zakaria, 2012).

### **5.7.2 Heteroscedasticity and Autocorrelation**

Heteroscedasticity and autocorrelation might be a concern for regression analysis that can also affect the results. To address this issue, two techniques are employed. Firstly, most of the variables of interest in both parts are transformed by using either the logarithmic function or the inverse hyperbolic sine function [ $\text{arcsinh}(x)$ ]. The reason for using two techniques is that in contrast to the logarithmic function the  $\text{arcsinh}$  function can accommodate negative and zero values for all variables. Secondly, the observations are clustered by both panels (i.e., by firms (i) and time (t)) to address random unobserved serial and cross-sectional correlation respectively (if any) in residuals (Petersen, 2009).

### 5.7.3 Endogeneity

As documented in the prior literature regarding the problem of endogeneity in governance studies (Hermalin & Weisbach, 2003; Wintoki, Linck, & Netter, 2012), this study is no exception for this issue. Different approaches are followed to address endogeneity associated with the regression models employed to examine the implications and determinants of the two categories of MDS.

In the first part, several procedures are followed in order to address the concern of a possible endogenous relationship between prestigious MDS and firm accounting performance. First, the current year performance (lagged performance) is included as a control variable in the future performance models. Firm fixed effect regression is used to address the issue of omitted variables.

Finally, 2SLS Instrumental Variables (IV) regressions are employed to test for reverse causality in order to detect a one-way causal effect of prestigious MDS on firm performance. I employ 'cross-listed' status as the instrument, which meets the criteria for a valid instrument. Moreover, the hypothesized relationship between cross-listed status and prestigious MDS is also supported by the argument of resource dependence theory.

In the second part, additional analysis is conducted to test for endogeneity in MDS variables. Prior studies examining the determinants of board structure considered board structure variables (board size, independence and CEO duality) as endogenous variables, and hence employed lagged values of the board structure variables simultaneously as explanatory variables to capture the interaction between different board structure variables (Boone et al., 2007; Linck et al., 2008). Based on this, my study includes lagged values of non-prestigious MDS in the prestigious MDS regression and the lag of prestigious MDS in the non-prestigious MDS regression, considering that the two different categories of MDS could be endogenous. Also, following prior studies (e.g., Agrawal & Chadha, 2005; Pathan & Skully, 2010), a

simultaneous system is employed using the 3SLS technique as an additional robustness check to control endogeneity.

## **5.8 Sensitivity and Robustness Analysis**

Several additional tests are also conducted to identify the validity of the initial results obtained from both sections using alternative measures of variables and regression techniques.

### **5.8.1 Excluding Finance Industry**

All the NZX listed firms of seven industry categories are included in the final sample to obtain results on a comprehensive database. However, a large number of prior studies excluded finance industry observations from their sample because of the unique characteristics of finance industry—most notably, high leverage, as well as the specific regulations and reporting procedures applicable to firms operating in the financial sector (Bhuiyan, 2010; Zakaria, 2012).

In order to check the robustness of key findings, all the regressions of both part are re-estimated excluding the observations of the finance industry.

### **5.8.2 First Difference Estimation**

This study also employs the first-difference estimation for a regression of  $\Delta y_{it}$  on  $\Delta x_{it}$  in both parts to address the problem of omitted variables in a panel data set. That is to test, whether the changes in explanatory variables are associated with changes in dependent variables over time. Based on this argument, this study predicts that the changes in MDS (both categories) should be reflected in firm performance as well as changes in theoretically-informed determinants are likely to be associated with changes in MDS categories.

### **5.8.3 Alternative Measures of Variables**

The regression models of both parts are re-estimated with the untransformed (raw value) numbers, alternative transformation techniques and alternative measures of both performance and MDS variables in order to check the robustness of results. For example, logarithm is used as an alternative transformation technique and profit margin is employed as an alternative measure of firm performance.

### **5.8.4 Busyness as Control Variable**

Prior studies suggest that an ‘experience’ effect and a ‘busyness’ effect of MDS are not mutually exclusive—they may occur at the same time, and one may be overshadowed by the other depending on the circumstances (Clements et al., 2015a, p. 355). Based on that assumption, an average number of directorships per director is included as a measure of ‘busyness’ as a control variable in the regression equations estimating the determinants of the two categories of MDS.

### **5.8.5 Determine Structural Change between Small and Large firms**

The likelihood of prestigious MDS on the board may change because of the variation in firm size. This study performs a Chow test to determine the significance of ‘firm size’ effects among panel data in the determinants model. That is, to determine the structural stability of a relationship between the theoretically-informed firm-specific characteristics and prestigious MDS for smaller firms and larger firms. The median total assets of NZD 231.542 m is used as the potential breakpoint of the relationship that this study desires to test. The regression equation of the determinants of the prestigious MDS is estimated for two ‘firm size’ categories: small firms (Firm Size < median total assets) and large firms (Firm Size > median total assets) to test the null hypothesis of no difference in intercepts and slope coefficients in the two subset regressions of small firm-years and large firm-years. First, the regression equation is estimated

over the entire sample and second, the regression equations over two sub-size, small firms and larger firms are estimated. Chow-statistic is calculated with  $F$  distribution ( $k, n-2k$ ) degrees of freedom:

$$\text{Chow Test: } F(K, N_{\text{large}} + N_{\text{small}} - 2 * K) = \frac{[S_{\text{entire}} - (S_{\text{small}} + S_{\text{large}})]/K}{(S_{\text{small}} + S_{\text{large}})/(N_{\text{large}} + N_{\text{small}} - 2K)}$$

Where,  $S_{\text{entire}}$  be the sum of squared residuals from the entire data,  $S_{\text{small}}$  be the sum of squared residuals from the small firm-years group, and  $S_{\text{large}}$  be the sum of squared residuals from the large firm-years group.  $N_{\text{large}}$  and  $N_{\text{small}}$  are the number of observations in each group and  $K$  is the total number of parameters.

#### **5.8.6 Time Series vs. Cross-sectional Dependence**

This study also employs the Fama and MacBeth (1973) technique to test the cross-sectional relationship between theoretically-informed firm-specific characteristics and directorship choices (prestigious vs non-prestigious), splitting the sample into separate years. The cross-sectional regressions of determinants model are estimated by fiscal year for all firms and then the time-series coefficients are determined by averaging the estimated annual slope coefficients and the  $R^2$  is the average of the annual regression  $R^2$ 's. Finally, t-statistics are calculated by averaging the coefficients over the years and dividing the results by their normalized standard deviation.

## 5.9 Summary

This chapter describes the sample selection process, data collection methods and the hypothesis testing procedures employed in this study. For the study period from 2005 to 2014, the final sample includes 1022 firm-years for NZX listed firms.

A set of ordinary least squares regression models are then developed to estimate cross-sectional multivariate regression equations to test the hypothesized relationships between corporate performance and MDS, as well as MDS and firm-specific characteristics. The data for the regressions are transformed using both the inverse hyperbolic sine and logarithm functions, and various robustness tests are applied.

The first part of Chapter 6 looks at the results of the hypothesis testing procedures with regard to the relationships between MDS and corporate performance. The second part of Chapter 6 reports the results of the hypothesized relationships between firm-specific characteristics and MDS.



**Table 5.3 Composition of Sample Distribution by Year and Industry**

Industry	<u>Year</u>										
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
Energy	6	6	6	7	7	8	9	9	9	9	76
Goods	12	14	15	16	16	17	16	16	16	17	155
Investments	9	9	10	12	13	14	14	13	13	13	120
Overseas	3	3	3	3	3	3	3	3	3	3	30
Primary	12	12	12	12	12	12	12	12	12	11	120
Property	7	7	8	8	8	8	8	8	8	8	78
Bank	2	2	2	2	2	2	3	3	3	3	24
Finance	6	6	6	6	6	6	5	6	6	5	68
Service-NF	31	32	33	35	36	37	38	41	39	38	360
<b>Total</b>	<b>88</b>	<b>91</b>	<b>95</b>	<b>101</b>	<b>103</b>	<b>107</b>	<b>108</b>	<b>111</b>	<b>110</b>	<b>109</b>	<b>1022</b>

This Table presents Composition of sample firm-years in two dimensions, industry and year. Industry is primarily based on Seven NZX (previous) industry classifications. In addition, Service is first categorised into Finance and Non-Finance and Finance sector is further classified into groups, Finance and Bank. Year is all the years of Sample Period, 2005 to 2014.

**Table 5.4 Measurement Procedure of MDS - Illustration**

Air New Zealand (Part of Director's Interest Register: Extracted from Annual Report 2014, p. 62)						
Directors	Name of the organization	Position	Type of organization	Types of Position	Total MDS of the Air NZ Board	Average MDS of the Air NZ Board
Tony Carter (Chairman)	ANZ Bank New Zealand Ltd	Director	Bank	Prestigious MDS	Prestigious MDS = (03+04+0)= 07	Average Prestigious MDS = (Total Prestigious MDS ÷ Board Size) = (07 ÷ 03) = 2.33
	Blues LLP	Chairman	Non-profit organization	Other Position		
	Fisher & Paykel Healthcare Corporation Ltd	Chairman	NZX Listed Company	Prestigious MDS		
	Fletcher Building Ltd	Director	NZX Listed Company	Prestigious MDS	Non-Prestigious MDS (01+0+05)= 06	Average Non-Prestigious MDS = (Total Non- Prestigious ÷ Board Size ) = (06 ÷ 03) = 2.0
	Foodstuffs Auckland Protection Trust	Trustee	Trust	Other Position		
	Maurice Carter Charitable Trust	Trustee	Trust	Other Position		
	New Zealand Initiative Ltd	Co-Chairman	Private Company	Non-Prestigious MDS	Total MDS = (07+06)= 13	Average Board MDS= (Total MDS ÷ Board Size)= (13 ÷ 3)= 4.33
Dr Jim Fox	BIOTA Pharmaceuticals Inc (USA)	Chairman	Foreign Company	Prestigious MDS	Other Position (03+0+02)= 05	Average Other Position = (Total Non- Prestigious ÷ Board Size ) =(05 ÷ 03)= 1.67
	Genmark Diagnostics Inc (USA)	Director	Foreign Company	Prestigious MDS		
	Multiple Sclerosis Research Australia Limited	Director	Foreign Company	Prestigious MDS		
	TTP Group (UK) Plc	Director	Foreign Company	Prestigious MDS		
Paul Bingham	Akaroa Harbour Cruises Ltd	Director	Private Company	Non-Prestigious MDS		
	Black Cat Group 2007 Ltd	Managing Director	Private Company	Non-Prestigious MDS		
	Destination Christchurch & Canterbury NZ Trust	Trustee	Trust	Other Position		
	Dolphin Experience Ltd	Director	Private Company	Non-Prestigious MDS		
	Lyttelton Harbour Cruises Limited	Director	Private Company	Non-Prestigious MDS		
	Pajo Trust Trustee	Trustee	Trust	Other Position		
	Shuttlerock Ltd	Director	Private Company	Non-Prestigious MDS		

The total number of board members is to be assumed to be 03 (three) in this illustration.

**Table 5.5 Definition of Variables used in the Firm Performance Models**

Variables	Meaning	Description (proxy)
<b>Panel A: Dependent Variables</b> (Transformation Technique - Inverse Hyperbolic Sine Function)		
Perf <sub>ACC</sub> Margin	Accounting firm performance Profit Margin	Profit Margin, Return on Assets and Return on Equity Pre-tax Operating Profit (EBIT) as a percentage of Sales (Source: Compustat, Annual Report)
ROA	Return on Assets	Net income before interest and tax as a percentage of average total assets (Source: Compustat, Annual Report)
ROE	Return on Equity	Net income after tax as a percentage of average shareholder's equity (Source: Compustat, Annual Report)
Pefr <sub>MKT</sub> Q	Market firm performance Tobin's Q	Tobin's Q and Stock Return The ratio of market value of firm (Market value of equity + Market value of preferred share + Book value of convertible debt + book value of debt) and Book value of assets. (Source: Compustat, Annual Report, NZX Data Company Research, Datastream)
R	Stock return	Annual share return over 12 months preceding the financial year-end, using Datastream return index (Source: NZX Data Company Research, Datastream)
Perf <sub>t+i</sub>	Future Performance	One, two and three year ahead Firm performance (Respective Measures)
<b>Panel B: Independent Variables</b> (Transformation Technique - Inverse Hyperbolic Sine Function)		
Board MDS	Average of Total MDS	The number of total directorships held by all the directors on a corporate board scaled by board size (Source: Annual Reports)
Prestg. MDS	Average of Prestigious MDS	The number of prestigious directorships held by all the directors on a corporate board scaled by board size (Source: Annual Reports)
Non-Prestg. MDS	Average of non-prestigious MDS	The number of other directorships held by all the directors on a corporate board scaled by board size (Source: Annual Reports)

**Table 5.5 Continued....**

Panel C: Control Variables		
Size	Firm Size	Natural logarithm of the book value of total assets at the end of each year (Source: Compustat, Annual Report)
Age	Firm Age	Natural logarithm of the number of years from which a firm is listed on NZX (Source: NZX Data Company Research)
Leverage	Debt/asset ratio	Natural logarithm of total liabilities over total assets (Source: Compustat, Annual Report)
Perf <sub>t</sub>	ROA <sub>t</sub> and ROE <sub>t</sub>	ROA and ROE at the end of current financial year (Source: Compustat, Annual Report)
BoardSize	Board Size	No. of directors on the board (Source: Annual Report)
OutsideDir	Proportion of outside directors	Proportion of outside (non-executive) directors on the board (Source: Annual Report)
Beta	Equity Beta	The firm's equity beta, estimating by using monthly stock returns data over the past three years (36 months) or available months (if not available for past 36 months) and the S&P/NZX 50 total index as a proxy for market returns (Source: NZX Data Company Research, Datastream, Online Source (Yahoo Finance))
B2M	Book-to-market Ratio	Ratio of book value and market capitalization of firm's equity at the end of the financial year (Source: NZX Data Company Research, Datastream)
GFC	Global Financial Crisis	A binary variable for GFC periods, 2008, 2009 and 2010 i.e. a dummy variable which equals 1 if the period is either 2008 or 2009 or 2010, otherwise 0 (Source: Annual Report)
Loss	Loss dummy	A binary variable equals 1 if the firm incur Loss during the current financial year, otherwise 0 (Source: Annual Report)
HighLevg	High Leverage dummy	A binary variable equals 1 if the leverage (TL/TA) of a firm is > 0.8, otherwise 0. (Source: Annual Report)
CrossList	Cross Listed	A binary variable taking the value of 1 if the firm is cross-listed on a foreign exchange and 0 otherwise (Source: NZX Data Company Research)
Industry	Industry Dummy variables	Seven dummy variables to identify the industry affiliation of each firm/year with Id <sub>j</sub> = 1 for firm/years under industry j and 0 otherwise with Goods being the 'base industry', hence excluded (Source: Annual Report)

This table presents the list of variables including name, meaning and description of proxies used in the firm performance model

**Table 5.6 Definition of Variables used in the Determinants Models**

Variables	Meaning	Measurement (proxy)
<b>Panel A: Dependent Variables</b> (Transformation Technique - Inverse Hyperbolic Sine Function)		
Prestg. MDS	Average Prestigious MDS	The number of prestigious directorships held by all the directors on a corporate board scaled by board size at the end of each year ( <i>Source: Annual Reports</i> )
Non-Prestg. MDS	Average non-prestigious MDS	The number of other directorships held by all the directors on a corporate board scaled by board size at the end of each year ( <i>Source: Annual Reports</i> )
Board MDS	Average total MDS	The number of total directorships held by all the directors on a corporate board scaled by board size ( <i>Source: Annual Reports</i> )
Total Prestg. MDS	Total Prestigious MDS per board	The number of prestigious directorships held by all the directors on a corporate board. ( <i>Source: Annual Reports</i> )
Total Non-Prestg. MDS	Total non-Prestigious MDS per board	The number of other directorships held by all the directors on a corporate board. ( <i>Source: Annual Reports</i> )
Total Board MDS	Total MDS per board	The number of total directorships held by all the directors on a corporate board ( <i>Source: Annual Reports</i> )

**Table 5.6 Continued....**

<b>Panel B: Independent Variables</b>		
Size	Firm Size	Natural logarithm of the book value of total assets at the end of each year ( <i>Source: Compustat, Annual Report</i> )
Growth	Growth Opportunity	the difference between the market value of firm (the market value of equities plus the book value of total liabilities) and the book value of total assets divided by the market value of firm at the end of the current financial year ( <i>Source: Compustat, Annual Report, NZX Data Company Research, Datastream</i> )
Leverage	Debt/asset ratio	Natural logarithm of total liabilities over total asset ( <i>Source: Compustat, Annual Report</i> )
FCF	Free Cash Flow	the operating cash flow less net capital investments during the year scaled by its book value of total Assets at the beginning of each year ( <i>Source: Compustat, Annual Report</i> )
CeoTenure	CEO Tenure	Natural logarithm of number of years CEO held his current position in the firm ( <i>Source: Annual Report</i> )
CeoDirector	CEO Board membership	A binary Variable, if a firm have CEO as a board member it is coded as 1 and firms which have CEO off the board are coded as 0. ( <i>Source: Annual Report</i> )
<b>Panel C: Control Variables</b>		
BoardSize	Board Size	No. of directors on the board ( <i>Source: Annual Report</i> )
OutsideDir	Proportion of outside directors	Proportion of outside (non-executive) directors on the board ( <i>Source: Annual Report</i> )
Perf <sub>ROA</sub>	Firm Performance	ROA at the end of current financial year ( <i>Source: Compustat, Annual Report</i> )
Prestg. MDS <sub>L1</sub>	Lag of Prestigious MDS	The average number of prestigious directorships on a corporate board in the previous year ( <i>Source: Annual Report</i> )
Non-Prestg. MDS <sub>L1</sub>	Lag of Non-prestigious MDS	The average number of non-prestigious directorships on a corporate board in the previous year ( <i>Source: Annual Report</i> )

This table presents the list of variables including name, meaning and description of proxies used in the Determinants of MDS model

## **CHAPTER SIX**

### **RESULTS OF DATA ANALYSIS**

#### **6.1 Introduction**

This chapter explains the results of empirical analysis undertaken in this thesis. Two sets of tests are conducted to examine the hypotheses developed in Chapter 4. The first set of analyses examines hypotheses related to ‘performance’ differences between the two categories of multiple directorships (MDS): prestigious MDS and non-prestigious MDS. The second group of tests examines the hypotheses related to the theoretically-informed determinants of these two categories of MDS. These tests investigate whether there is any ‘prestige’ related difference between multiple directorships (MDS).

Section 6.2 starts with the descriptive statistics relating to all the variables employed in both sets of empirical analyses. As a number of variables are common to the two sets of analyses, the descriptive statistics are combined and presented together. Sub-sections are included that present statistics by industry and year. Following this, the findings of empirical analysis are presented sequentially in two broad parts, A and B. Each part begins with the results of a correlation analysis, which is followed by the results of the multivariate analyses. The following section discusses econometric issues relating to the empirical procedures employed in this Chapter. The subsequent section discusses several sensitivity tests employing alternative specifications for variables and regression techniques to support the robustness of the results. At the end of each part, a summary is presented.

## **6.2 Descriptive Statistics**

Tables 6.1, 6.2 and 6.3 present the summary of sample statistics. The sampling for this study draws on data from all New Zealand listed companies. The final sample comprises panel data of 116 NZX companies for the period of 2005-2014, a total of 1022 firm-year observations. All data are for, or as of, the end of the fiscal year. The pooled sample statistics for the various board, MDS and firm characteristic variables are presented in Table 6.1. Table 6.2 reports summary statistics of the board and MDS variables by industry and over time. In addition, Table 6.3 provides descriptive statistics for the transformed variables.

### **6.2.1 Descriptive Statistics of Pooled Data**

As reported in Panel A of Table 6.1, board size (BoardSize) ranged from 3 to 13, with a mean (median) of 6.1 (6.0). These numbers are comparable to those reported for existing NZ studies, such as Hossain et al. (2001), Prevost, Rao, and Hossain (2002), Bhuiyan (2010), Dunstan et al. (2011); Li (2013) and Fauzi and Locke (2012). The minimum board size of 3 is also consistent with the NZX requirement that there shall be a minimum of three directors for an NZX issuer. The average board size of New Zealand firms is more or less similar to that documented in Australian and UK studies, for example, an average size of 6 for boards in Australia (Kiel & Nicholson, 2006; Matolcsy, Tyler, & Wells, 2009), and 7 for boards in the UK (Guest, 2009). Nevertheless, this number is considerably smaller than that reported by US studies, which have an average from 10 to 12 (Cashman et al., 2012; Jiraporn et al., 2009a; Jiraporn et al., 2009b).



**Table 6.1 Descriptive Statistics - Pooled Sample**

N=1020	Mean	Min.	Percentiles					Max.
			5	25	50	75	95	
<i>Panel A: Board and MDS variables</i>								
BoardSize (No.)	6.1	3.0	3.0	5.0	6.0	7.0	9.0	13.0
OutsideDir (%)	84	20	57	75	86	100	100	100
Total Board MDS (No.)	21.7	1.0	4.0	11.0	18.0	28.0	50.0	146.0
Total Prestg. MDS (No.)	6.9	0.0	0.0	3.0	5.0	10.0	17.9	32.0
Total Non-Prestg. MDS (No.)	14.8	0.0	1.0	6.0	11.0	20.0	41.0	127.0
Board MDS (No.)	3.6	0.2	0.8	1.9	3.0	4.6	8.2	24.3
Prestg. MDS (No.)	1.1	0.0	0.0	0.5	1.0	1.5	2.8	5.0
Non-Prestg. MDS (No.)	2.5	0.0	0.25	1.0	1.9	3.2	7.5	21.4
N/DS. Post. (No.)	5.7	0.0	0.0	1.0	3.0	8.0	19.0	45.0
<i>Panel B: Firm performance measures</i>								
EBIT (NZ\$ mil)	274.85	-1092.00	-5.08	2.10	19.57	71.53	665.10	10740.00
NPAT ((NZ\$ mil)	177.69	-435.00	-15.52	0.21	10.30	48.30	458.00	7561.00
Margin (%)	10	-5500	-258	4	10	26	86	11088
ROA (%)	6	-822	-33	2	7	13	27	1247
ROE (%)	4	-397	-29	1	7	14	27	98
R	12	-99	-52	-15	9	28	82	340
Q	2.30	0.39	0.66	0.96	1.18	1.79	5.34	260.31

Table 6.1 continued....

	Mean	Min.	5	25	Percentiles			Max.
					50	75	95	
<i>Panel C: Firm specific variables</i>								
Rev (NZ\$ mil)	1216.10	0.00	0.83	29.22	138.11	489.36	5338.80	25678.00
Size-TA (NZ\$ mil)	12822.76	0.03	4.44	57.68	231.54	1218.59	8713.32	772092.00
MktCap (NZ\$ mil)	2749.31	0.45	4.61	49.18	194.00	720.59	5489.71	114817.15
B2M	1.29	0.05	0.21	0.51	0.90	1.41	3.43	31.33
FCF	-0.03	-12.06	-0.40	-0.02	0.03	0.07	0.18	2.07
Growth	0.17	-1.58	-0.51	-0.05	0.15	0.44	0.81	1.00
Age (years)	14.51	1.00	2.00	6.00	11.00	19.00	46.00	67.00
CeoTenure (years)	6.99	1.00	1.00	3.00	5.00	9.00	21.00	36.00
CeoDirector (binary, N(1)= 709)	0.69	0.0	0.0	0.0	1.0	1.0	1.0	1.0
Leverage (Ratio)	0.47	0.00	0.03	0.30	0.45	0.63	0.96	1.00
Beta	0.75	-8.00	0.44	0.24	0.70	1.13	2.03	25.75
HighLevg (binary, N(1)=119)	0.12	0	0	0	0	0	1	1
Loss (binary, N(1)=236)	0.23	0	0	0	0	0	1	1
CrossList (binary, N(1)=247)	0.24	0	0	0	0	0	1	1

This table presents descriptive statistics of variables (untransformed) from NZX listed companies over 2005-2014. See Table 5.5 and 5.6 for variable definitions. Amounts are reported in millions NZD.

The mean (median) proportion of outside (non-executive) directors (OoutsideDir) over the sample period is 84% (86%), ranging from 20 to 100%. By comparison, the mean proportion of non-executive directors is 65 to 70% in Australian firms (Kiel & Nicholson, 2006; Monem, 2013) and 60% in US firms (Fich & Shivdasani, 2006). This indicates that the majority of New Zealand companies' boards are less dominated by executive directors compared to other countries, which is consistent with the argument that countries with single board structures are more likely to have outsider dominated boards (Prevost et al., 2002).

The mean (median) number of total MDS (without categorization) of a typical NZX board is 21.7 (18) with a range of 1 (Windflow Technology Limited) to 146 (Metlifecare Limited), and the mean (median) number of MDS per director (total MDS scaled by board size) is 3.6 (3.0). This indicates a relatively higher incidence of multiple directorships in New Zealand compared to the US or other large countries. For example, Ahn et al. (2010) report that the mean number of directorships per director is 1.93 (1.86) in US firms, and Kiel and Nicholson (2006) document an average number of directorships per director of 1.3 in Australia

Among the total MDS per board, statistics for the two categories of MDS in Panel A of Table 6.1 show that the mean (median) number of total prestigious MDS per board is 6.9 (5.0) and the mean (median) number of total non-prestigious MDS per board, is 14.8 (11). At director level (after scaling by board size), the mean (median) number of prestigious MDS per director (Prestg. MDS) is 1.1 (1.0), while the mean (median) number of non-prestigious MDS per director (Non-Prestg. MDS) is 2.5 (1.9).

Thus, the number of non-prestigious MDS is more than twice the number of prestigious MDS, showing that the majority of MDS on NZX boards are from non-prestigious companies. In comparison, Li (2013) reports that the mean (median) number of directorships per director is 6.60 (4.83) of which 2.51 (2.00) are directorships from listed companies. This indicates a

unique pattern of MDS in New Zealand, where directors usually hold a higher proportion of directorships in non-listed companies relative to listed companies (Boyle & Ji, 2013; Brown & Roberts, 2016; Li, 2013).

In addition to corporate directorships, New Zealand directors often hold a number of other positions, such as advisory positions, chairmanships or trusteeships in non-trading and government organizations. The mean (median) value of non-directorship positions (N/DS. Post) of a corporate board is 5.7 (3.0) with a range from 0 to 45. As discussed in the prior literature, these positions could contribute the busyness of a corporate board (Cashman et al., 2012; Fich & Shivdasani, 2006).

The descriptive statistics of performance variables are presented in Panel B of Table 6.1. The mean (median) earnings before interest and tax (EBIT) and net profit after tax (NPAT) are \$274.85 m (19.57 m) and \$177.69 m (10.30 m) indicating that these are skewed with the maximum numbers approximately 16 times larger than the numbers at 95<sup>th</sup> percentile. The mean and median percentage of profit margin is 10%; the mean (median) return on assets (ROA) is 6% (7%). This indicates that mean and median percentages of profit margin and ROA are quite similar. The sample mean (median) return on equity (ROE) is 4% (7%). The mean value of smaller ROE compared to ROA indicates a higher level of profitability on total assets than on total equity.

The mean (median) percentage of annual stock returns (R) is 12% (9%), showing that stock returns of New Zealand listed companies are considerably higher than book returns (ROA and ROE). The mean stock beta is 0.75 (0.70), which indicates less volatility of stock price of New Zealand firms (11<sup>th</sup> row of Panel C of Table 6.1). The sample mean (median) Tobin's Q is 2.30 (1.18). Theoretically, New Zealand companies have created value for the shareholders, as both mean and median are greater than one (Reddy et al., 2008). However, the significant

differences between the average and median value of Tobin's Q (almost double) indicate that the mean value is influenced by extreme values and at least half of all firms' shares are valued at only 18% more than asset replacement cost.

The mean values of ROA, ROE and Tobin's Q closely resemble the mean values shown in prior New Zealand studies (Bhuiyan, 2010; Li, 2013; Roudaki & Bhuiyan, 2015). Quartile values of the measures of firm accounting performance show that the lower 25% of all values (the loss dummy is equal to 1 for 236 firm-year, which is 23.1% of the total sample) of NZX companies incur a loss within the sample period. As the sample includes the crisis period, some extreme values for performance measures have been observed as indicated by minimum and maximum values. In order to address this issue, an inverse hyperbolic sine (IHS) transformation is applied to all of the performance proxies; the summary statistics of transformed variables are presented in Table 6.3.

Panel C of Table 6.1 reports the descriptive statistics of the other firm-specific variables. The sample mean (median) sales revenue (Rev) is \$1,216.1 m (138.11 m). The sample mean (median) book value of total assets (Size) is \$12.82 billion<sup>11</sup> (231.54 m) with a range of \$0.03 m to 7,72,092 m, while the mean (median) market value of equity (MktCap) is \$2,749.31 m (194 m). These statistics suggest that a broad cross-section of firms populate the sample, and the distribution of these variables is positively skewed as the mean exceeds the median as well as the third quartile. In comparison, New Zealand firms are significantly smaller (based on the median) than US firms, which is to be expected in a smaller economy. For example, Cashman et al. (2012) report a median book value of total assets of US \$1,344 m and a median value of sales of US \$1,305 m.

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<sup>11</sup> In table 6.1, the mean total asset (Size) is 12822.76 m, which is equivalent to 12.82 b.

The average (median) firm age is 14.5 years (11 years) which resembles the mean value shown in prior New Zealand studies such as Li (2013), and slightly higher than the mean age 12.22 (7.67) among ASX listed firms provided in Monem (2013) using the same measure (listing tenure) of firm age.

The descriptive statistics of CEO characteristics indicate that 69% of NZX companies have a CEO as director on their board, which is slightly lower than that of 71.5% as reported by Li (2013). The average (median) CEO tenure is 6.99 years (5 years) with a range of 1 to 36 years. The mean value of CEO tenure is comparable to the US as reported by Linck et al. (2008), who report an average CEO tenure for US firms of 7.1 years.

The mean (median) leverage is 47% (45%) which is considerably larger than that of Australian firms; for example, Monem (2013) reports that the mean (median) leverage of a sample of Australian firms is 34.9% (29.6%). The summary statistics of the high leverage dummy indicate that about 10% of NZX companies (N=119) hold debt which is at least 80% of their total assets. Among these highly leveraged firms, 34 firm-years have a negative book value of equity; theoretically the highest level of leverage is set at 1 as having total liabilities greater than total assets is unacceptable. Therefore, the higher incidence of debt among a number of New Zealand firms could cause the larger mean leverage of New Zealand firms.

The mean (median) growth opportunity is 0.17 (0.15), which is comparable to existing New Zealand studies using the same measure of growth (e.g., Dunstan et al., 2011). The mean free cash flow, (FCF) is negative (-3%), while the median is 3% of total assets, indicating that New Zealand firms have a lower likelihood of overinvestment derived from FCF, hence less agency conflict as suggested by Jensen (1986). The mean (median) book-to-market ratio (B2M) is 1.29 (0.90), suggesting that the New Zealand listed companies are not significantly undervalued or overvalued. The summary statistics of the CrossList dummy indicate that

approximately 25% of New Zealand companies are also listed on at least one overseas stock exchange.

Table 6.2 shows the descriptive statistics of the transformed variables. In order to minimize skewness, performance and MDS variables are transformed using inverse hyperbolic sine function and the logarithm transformation is applied to some firm-specific variables including Size, Age, Leverage and CEO Tenure. The mean and median values of firm-specific variables are now very close, which indicates normality of the distributions. However, the distributions of transformed performance variables remain slightly skewed. That is, the medians of accounting performance variables (Margin, ROA and ROE) are larger than the means (negatively skewed), while the medians of the market performance variables (R and Q) are smaller than the means (positively skewed).

**Table 6.2 Descriptive Statistics - Transformed Data**

Variables	Mean	Min.	Percentiles					Max.
			5	25	50	75	95	
<i>Panel A: MDS Variables</i>								
<i>Transformation Technique - Inverse Hyperbolic Sine Function</i>								
Total Prestg. MDS (No.)	2.26	0.00	0.00	1.82	2.31	3.00	3.53	4.16
Total Non-Prestg. MDS (No.)	2.96	0.00	0.88	2.49	3.09	3.69	4.41	5.54
Total Board MDS (No.)	3.51	0.88	2.09	3.09	3.58	4.03	4.61	5.68
Prestg. MDS (No.)	0.86	0.00	0.00	0.48	0.88	1.19	1.74	2.31
Non-Prestg. MDS (No.)	1.39	0.00	0.25	0.88	1.38	1.87	2.71	3.76
Board MDS (No.)	1.81	0.17	0.71	1.39	1.82	2.23	2.80	3.89
<i>Panel B: Firm performance measures</i>								
<i>Transformation Technique - Inverse Hyperbolic Sine Function</i>								
Margin	4.97	-470.06	-167.65	3.5%	10.12	25.61	78.25	540.16
ROA	5.11	-280.29	-32.27	1.63	7.06	12.97	26.21	321.82
ROE	4.30	-208.69	-28.92	0.61	7.10	14.05	26.95	86.98
R	9.77	-87.64	-50.22	-14.45	8.75	27.98	74.50	193.78
Q	1.18	0.38	0.62	0.85	1.00	1.34	2.38	6.26
<i>Panel C: Firm-specific Variables</i>								
<i>Transformation Technique- Logarithm</i>								
Size (NZ\$ mil)	2.39	-1.60	0.65	1.76	2.36	3.08	3.94	5.89
Age (years)	1.01	0.00	0.30	0.78	1.04	1.28	1.66	1.83
Leverage (Ratio)	-0.45	-2.67	-1.54	-0.52	-0.35	-0.20	-0.02	0.00
CeoTenure (years)	0.68	0.00	0.00	0.48	0.70	0.95	1.32	1.56

This table presents descriptive statistics of transformed variables from NZX listed companies over the 2005-2014. See Table 5.5 and 5.6 for variable definition.



### **6.2.2 Industry Pattern of New Zealand Board and MDS Variables**

Panel A of Table 6.3 reports summary statistics for board and MDS variables across industries. A significant variation between board and MDS characteristics is observed within NZX firms among different industries. With respect to board size, the mean (median) ranges from 4.6 (4) to 8.33 (8). Investment companies tend to have the smallest board size and banking companies are likely to have the largest board size which is consistent with prior studies that banks require larger boards to cope with their complex nature (Adams & Mehran, 2011). Regulated industries, such as Energy, have the highest number of outside directors and investment companies have the lowest, with small differences observed among other industries.

Consistent with the board size, the highest number of prestigious MDS are observed in the banking industry. Higher numbers of prestigious MDS are also observed in the finance and energy industries. The number of non-prestigious MDS is more or less similar among the NZX industry categories. With regard to non-directorship positions, directors of banks usually hold highest (more than twice) number of these positions, while the directors of property industry has the lowest numbers. This implies that bank directors are better connected than others directors.

**Table 6.3 Descriptive Statistics for Categorical Board and MDS Variables**

	BoardSize		OutsideDir		Prestg. MDS		Non-Prestg. MDS		Board MDS		N/DS. Post.	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
<i>Panel A: Industry-by-Industry Descriptives</i>												
Bank	8.33	8.00	0.88	0.88	10.92	11.00	12.17	9.50	23.08	22.00	14.13	13.00
Finance	6.38	6.00	0.81	0.86	8.09	8.50	13.00	10.00	21.09	18.50	6.03	5.00
Energy	6.62	6.00	0.94	1.00	9.17	7.00	15.53	12.00	24.70	21.00	7.25	4.00
Goods	5.77	6.00	0.78	0.80	4.96	4.00	11.57	8.00	16.54	13.00	4.20	3.00
Investments	4.55	4.00	0.80	0.75	6.83	6.00	13.98	9.00	20.80	19.00	3.78	2.00
Primary	7.30	7.00	0.86	0.86	7.83	5.00	17.14	11.00	24.98	16.00	5.39	3.00
Property	5.49	6.00	0.85	0.82	6.08	6.00	15.15	9.00	21.23	15.00	2.74	3.00
Service	6.21	6.00	0.85	0.86	6.62	5.00	16.12	14.00	22.74	21.00	6.81	4.00
<i>Panel B: Year-by-Year Descriptives</i>												
2005	6.15	6.00	0.83	0.83	6.65	5.00	11.50	9.00	18.15	16.00	4.91	3.00
2006	6.13	6.00	0.83	0.83	6.87	5.00	14.43	12.00	21.30	18.00	4.90	3.00
2007	6.09	6.00	0.84	0.86	6.92	6.00	14.04	11.00	20.96	18.00	5.06	3.00
2008	5.99	6.00	0.83	0.83	6.45	5.00	13.64	10.00	20.09	17.00	5.15	3.00
2009	6.06	6.00	0.83	0.83	6.07	5.00	14.97	11.00	21.04	18.00	5.27	3.00
2010	6.11	6.00	0.84	0.83	6.35	5.00	14.36	9.00	20.70	16.00	5.52	3.00
2011	6.06	6.00	0.84	0.86	6.94	5.00	14.70	11.00	21.65	16.50	6.47	4.00
2012	6.10	6.00	0.84	0.86	7.18	6.00	15.54	11.00	22.72	19.00	6.32	4.00
2013	6.17	6.00	0.84	0.86	7.37	6.00	16.98	13.00	24.35	19.00	6.43	4.00
2014	6.23	6.00	0.85	0.86	7.77	7.00	17.37	11.50	25.14	20.50	6.61	4.00

This table presents descriptives statistics for categorical Board and MDS variables from NZX listed companies over 2005-2014. See Table 5.6 for variable definitions.

### **6.2.3 Trends in New Zealand Board and MDS Variables**

Panel B of Table 6.3 and Figure 6.1 (Panel A to Panel D) show the time trends in the board (board size and outside directors) and MDS (prestigious and non-prestigious) variables from 2005 to 2014. The average board size over the sample period is 6, showing a slight decreasing trend from 2007 to 2009, while the medians remain constant over the sample period. The means of the proportion of outside directors have little variation, ranging between 83% and 85% over the 10-year period. The mean numbers of prestigious MDS on a given board range from 5 to 7. An increasing trend is observed for prestigious MDS between 2011 and 2014. The mean numbers of non-prestigious MDS have fallen steadily between 2010 and 2011, and then increased after that. Finally, the means of total MDS per board show an increasing trend over the sample period.

### **6.2.4 Descriptive Statistics: High vs. Low Prestigious MDS**

This study also compares dependent and independent variables for high prestigious MDS firms and low prestigious MDS firms (not reported). The median average prestigious MDS of 1 is used to divide the entire sample of 1020 firm-year observations into two groups: low prestigious MDS group (472 firm-years) and a high prestigious MDS group (548 firm-years). The results show that the differences in mean (median) values are statistically significant for firm size, free cash flow, leverage, CEO tenure, average prestigious MDS, average board MDS, profit margin, ROA, ROE, stock return, board size and proportion of outside directors. Higher prestigious MDS firms are likely to have higher leverage, profit margin, ROA, ROE, stock return, while these firms tend to have lower Tobin's Q, free cash flow, growth opportunity and CEO tenure.

## **PART A: PERFORMANCE IMPLICATION OF MDS**

Part A discusses the first set of results obtained from analyzing the relationship between MDS and corporate performance, and Part B explains the results related to the theoretically-informed determinants of the two categories of MDS. Section 6.3 presents the results of correlation analysis. Section 6.4 provides a summary of the empirical results relating to hypotheses 1 and 2. These hypotheses examine whether there are firm ‘performance’ differences between prestigious MDS and non-prestigious MDS. Section 6.5 discusses econometric issues relating to the empirical procedures employed in this chapter. Section 6.6 presents the results of several sensitivity tests to support the robustness of the results. A summary of Part A is provided in section 6.7.

### **6.3 Correlation Analysis: MDS and Firm Performance**

A correlation analysis is conducted for all the main variables to show the direction and strength of the linear relationship between pairs of variables. Table 6.4 presents Pearson pairwise sample correlations between variables employed in the firm performance models. These indicators show that the majority of correlations are statistically significant, and the correlations between prestigious MDS and all firm performance variables except Tobin’s Q are positive and significant. However, the correlations between non-prestigious MDS and all firm performance measures except Tobin’s Q are negative and significant.

In contrast to all other performance variables, Tobin’s Q is inversely correlated with both categories of MDS and both are statistically significant. These univariate indicators suggest that firm performance (except Tobin’s Q) is positively associated with prestigious MDS, while negatively associated with non-prestigious MDS. The opposite directions may be because Tobin's Q indicates growth opportunities while other measures (such as Margin, ROA and ROE) express operational performance of the company.

**Table 6.4 Pearson Correlation Matrix for Variables of Performance Models**

Variables (N= 1020)	1	2	3	4	5	6	7	8	9	10	11	12	13	14
(1) Margin	1.00													
(2) Q	-0.22***	1.00												
(3) ROA	0.66***	-0.17***	1.00											
(4) ROE	0.31***	-0.05*	0.40***	1.00										
(5) R	0.06**	0.17***	0.12***	0.25***	1.00									
(6) Prestg. MDS	0.24***	-0.11***	0.17***	0.17***	0.09***	1.00								
(7) Non-Prestg. MDS	-0.12***	0.21***	-0.09***	-0.11***	0.03	0.05*	1.00							
(8) Size	0.31***	-0.46***	0.16***	0.32***	0.07**	0.39***	-0.23***	1.00						
(9) Age	0.00	-0.14***	0.11***	0.13***	0.09***	0.02	0.01	0.20***	1.00					
(10) Leverage	0.07**	0.14***	-0.01	-0.02	-0.01	-0.05*	-0.01	0.22***	0.07**	1.00				
(11) BoardSize	0.10***	-0.16***	0.08***	0.23***	0.08***	0.10***	-0.13***	0.65***	0.19***	0.20***	1.00			
(12) OutsideDir	0.10***	-0.21***	0.07**	0.06**	0.03	0.10***	0.03	0.29***	0.23***	0.11***	0.34***	1.00		
(13) Beta	-0.13***	0.14***	-0.18***	-0.16***	0.05*	-0.03	-0.01	0.00	0.03	0.06**	0.07**	-0.04	1.00	
(14) B2M	-0.07**	0.00	-0.03	-0.19***	-0.28***	-0.12***	0.08***	-0.36***	-0.03	0.02	-0.27***	-0.00	-0.11***	1.00

This table shows Pearson correlation matrix for MDS, Firm Performance and Control Variables. \*, \*\*, \*\*\* indicate statistically significant at the 0.1, 0.05 and 0.01 levels. See Table 5.5 for variables definitions.

There are positive correlations between all firm performance variables (except Tobin's Q) and most of the control variables, (firm size, firm age, board size and proportion of outside directors). The correlation coefficient for leverage with profit margin and Tobin's Q are positive and significant, while these coefficients are not significant with other performance variables. Consistent with the general perception, book-to-market (B2M) is significantly negatively correlated with stock return, similarly, the coefficient for Beta with stock return is positive, however not statistically significant.

None of the correlation coefficients recorded in Table 6.4 exceeds the  $r = 0.8$  threshold, which indicates less likelihood of multicollinearity problems in regression models 1 and 2 (Pallant, 2005). In particular, the correlations among independent variables, that is, the correlation coefficient for prestigious MDS with non-prestigious MDS is 0.05, positive and significant at 10%; hence, multicollinearity among the regressors should not be a concern. The highly positive correlation between firm size and board size, as well as firm size and prestigious MDS indicate that both board size and prestigious MDS increase with firm size.

## **6.4 Multivariate Analysis: MDS and Firm Performance**

This section presents the results for tests of the hypotheses related to whether there are firm ‘performance’ differences between prestigious MDS and non-prestigious MDS. Both accounting and market-based measures of firm performance are employed to examine the effects of the two categories of MDS on firm performance.

### **6.4.1 MDS and Accounting Firm Performance**

The first set of regressions examines the relationship between MDS of two categories (prestigious MDS and non-prestigious MDS) and the firm’s accounting performance, measured by Return on Assets (ROA) and Return on Equity (ROE). These regressions are controlled for firm size, firm age, leverage, board size, proportion of outside (non-executive) directors and industry factors. As additional controls, several binary variables for high leverage, Loss and GFC are included in regressions.

The regression results of MDS and current year performance are summarised in Table 6.5. Panel B of Table 6.5 shows that the F-statistics are statistically significant at the 1% level, which suggest a good overall fit for the models in estimating accounting firm performance among New Zealand companies. The  $R^2$  values are 18.3% and 44.7%, respectively, for ROA and ROE. The results suggest that the two categories of MDS, prestigious MDS and non-prestigious MDS, explain over 18% of variations in ROA and 44% of variations in ROE, with a higher explanatory power in explaining ROE than ROA.

The indicators of relevant diagnostic tests are summarized in Panel C of Table 6.5. The average variation inflation factor (1.66) for both models indicate that multicollinearity among the explanatory variables is unlikely be a concern in estimating the regression equations. The 2D cluster SE indicates that the observations are clustered by both firm and year to control for unobserved firm-fixed effects and time-effects in the estimates.

The second row of Panel A of Table 6.5 reveals that prestigious MDS on the board are associated with better accounting performance of the NZX companies represented by ROA and ROE. The associated estimated coefficients on prestigious MDS are positive, 0.086 for ROA and 0.053 for ROE, which are statistically significant. With regard to non-prestigious MDS, the third row of Panel A of Table 6.5 shows that the estimated coefficients are negative, -0.033 for ROA and -0.020 for ROE, which are also statistically significant, suggesting that non-prestigious MDS are negatively associated with the firm's accounting performance. The economic significance of these results is notable: for example, an increase in average prestigious MDS by 1 is associated with an 8.6% increase in ROA, while an increase in average non-prestigious MDS by 1 reduces ROA by approximately 3.3%. A negative relationship between non-prestigious MDS and firm performance could support the argument of inefficiency that non-prestigious MDS bring limited benefits to the firm.



**Table 6.5 Accounting Performance of Current Year and MDS – (Main Results: H<sub>1</sub>)**

	<u>ROA</u>		<u>ROE</u>	
	Coef.	<i>p</i> -value	Coef.	<i>p</i> -value
<b>Panel A: Explanatory Variables</b>				
Intercept	0.034	0.67	0.087	0.07*
Prestg. MDS	0.086	0.10*	0.053	0.03**
Non-Prestg. MDS	-0.033	0.08*	-0.020	0.07*
Size	-0.020	0.60	-0.005	0.74
Age	0.073	0.03**	0.045	0.02**
Leverage	0.040	0.19	-0.003	0.82
HighLevg	-0.125	0.07*	-0.089	0.07*
BoardSize	0.002	0.83	0.007	0.19
OutsideDir	0.056	0.56	-0.068	0.20
GFC	0.014	0.56	-0.025	0.01***
Loss	-0.234	0.00***	-0.285	0.00***
Finance	0.015	0.74	0.056	0.19
Service	-0.015	0.54	0.026	0.18
Investment	0.075	0.34	-0.019	0.62
Property	-0.012	0.73	0.000	1.00
Energy	-0.108	0.01***	-0.076	0.01***
Primary	-0.057	0.08*	-0.039	0.09*
<b>Panel B: Model Fits</b>				
R-squared	0.183		0.447	
F-value	14.29		28.69	
Prob>F	0.00		0.00	
No. of pooled observation	1009			
<b>Panel C: Regression Diagnostics</b>				
AVIF (max)	1.66 (3.06)			
2D cluster SE	Firm ID - 116 and Year-10			
<b>Panel D: Wald Test</b>				
Coefficient Comparison ( <b>F stat</b> ):				
Prestg. MDS= Non-Prestg. MDS	3.47**		4.58**	

This table presents the results of the Ordinary Least Squares (OLS) estimates of equations (1) for two accounting based firm performance of current year, ROA and ROE at the end of the year. The two explanatory variables are Prestigious MDS and Non-Prestigious MDS. The regression models rely on *p*-values that account for two dimensions clusters, by both panels (i.e., by firms (*i*) and time (*t*)). AVIF is the average ‘variance inflation factor’ indicates the degree of collinearity problem among the regressors. The Wald (1943) test is used to assess the difference between coefficients of the respective estimates. \*, \*\*, \*\*\* indicate statistical significance at 10%, 5%, and 1% levels, respectively. See Table 5.5 for definitions of Dependent, Independent and Control Variables.

Secondly, Tables 6.6 and 6.7 report the results of regressions of future firm performance. In these regression equations, an additional control variable, performance of the current year (as a lag of ROA and ROE) is included as one of the right-hand side variables in the respective regression. Panel B of Table 6.6 and 6.7 show that the F-statistics for regressions are statistically significant at the 1% level in explaining long-term accounting firm performance. The  $R^2$  values are 21.3%, 13.3% and 9.0% for ROA and 24.8%, 24.2% and 21.7% for ROE, respectively, for the subsequent years at times:  $t+1$ ,  $t+2$  and  $t+3$ . These levels of R-Squared indicate that the estimated models explain between 9 to 21 percent of variations in the ROA and 21 to 25 percent of variations in ROE in future years 1, 2 and 3.

The regression results in the second row of Panel A of Table 6.6 reveal that prestigious MDS are positively associated with the one-, two- and three-year ahead ROA, and the results are statistically significant (coefficients = 0.062, 0.099 and 0.117, respectively, for the one-, two- and three-year horizons, respectively). The economic significance of these results is notable, showing an increasing trend over the period. For example, an increase in average prestigious MDS by 1 in the current year is associated with 6%, 10% and 12% increases in the subsequent years at times:  $t+1$ ,  $t+2$  and  $t+3$ , respectively, for ROA. On the other hand, the estimated coefficients for non-prestigious MDS in the third row of Panel A are negative and statistically significant across the three-year horizons.

Table 6.7 shows a similar relationship for prestigious MDS when ROE is employed as the dependent variable, while the coefficients of non-prestigious MDS in the ROE regression are negative over the three-year horizons, however, not statistically significant.

**Table 6.6 ROA of Future Years and MDS – (Main Results: H<sub>1</sub>)**

	ROA		ROA		ROA	
	One year ahead		Two years ahead		Three years ahead	
	Coef.	<i>p</i> -value	Coef.	<i>p</i> -value	Coef.	<i>p</i> -value
<b>Panel A: Explanatory Variables</b>						
Intercept	0.097	0.34	0.076	0.59	0.029	0.83
Prestg. MDS	0.062	0.06*	0.099	0.05**	0.117	0.02**
Non-Prestg. MDS	-0.030	0.08*	-0.042	0.07*	-0.045	0.06*
Size	-0.012	0.55	-0.030	0.33	-0.054	0.06*
Age	0.062	0.05**	0.065	0.08*	0.031	0.30
Leverage	0.043	0.15	0.020	0.57	-0.001	0.98
HighLevg	-0.067	0.16	-0.125	0.16	-0.008	0.94
ROA <sub>t</sub>	0.139	0.00***	0.037	0.06*	0.020	0.64
BoardSize	0.003	0.73	0.009	0.30	0.027	0.02**
OutSideDir	-0.062	0.60	-0.044	0.79	-0.060	0.71
GFC	0.008	0.65	-0.002	0.95	-0.010	0.65
Loss	-0.146	0.00***	-0.151	0.00***	-0.103	0.00***
Finance	-0.005	0.91	0.035	0.45	-0.015	0.81
Service	0.000	0.99	0.001	0.97	0.011	0.78
Investments	0.080	0.26	0.093	0.28	0.081	0.34
Property	0.005	0.85	0.001	0.96	0.018	0.62
Energy	-0.075	0.11	-0.092	0.10*	-0.077	0.30
Primary	-0.035	0.28	-0.050	0.17	-0.038	0.37
<b>Panel B: Model Fits</b>						
R-squared	0.213		0.133		0.090	
F-value	8.63		6.18		3.89	
Prob>F	0.00		0.00		0.00	
No. of pooled observation	894		779		665	
<b>Panel C: Regression Diagnostics</b>						
AVIF (max)	1.66 (3.11)					
2D cluster SE	ID - 115 and Year -9	ID - 114 and Year - 8	ID - 110 and Year -7			
<b>Panel D: Wald Test</b>						
Coefficient Comparison ( <b>F stat</b> )						
Prestg. MDS =						
Non-Prestg. MDS	5.64***		4.88***		6.62***	

This table presents the results of the Ordinary Least Squares (OLS) estimates of equations (1) for ROA of in future years 1, 2 and 3. The two explanatory variables are Prestigious MDS and Non-Prestigious MDS. The regression models rely on *p*-values that account for two dimensions clusters, by both panels (i.e., by firms (i) and time (t)). AVIF is the average ‘variance inflation factor’ indicates the degree of collinearity problem among the regressors. The Wald (1943) test is used to assess the difference between coefficients of the respective estimates. \*, \*\*, \*\*\* indicate statistical significance at 10%, 5%, and 1% levels, respectively. See Table 5.5 for definitions of Dependent, Independent and Control Variables.

**Table 6.7 ROE of Future Years and MDS – (Main Results: H<sub>1</sub>)**

	ROE		ROE		ROE	
	One year ahead		Two years ahead		Three years ahead	
	Coef	<i>p</i> -value	Coef	<i>p</i> -value	Coef	<i>p</i> -value
<b>Panel A: Explanatory Variables</b>						
Intercept	0.027	0.64	0.041	0.51	0.024	0.77
Prestg. MDS	0.051	0.04**	0.064	0.03**	0.051	0.18
Non-Prestg. MDS	-0.014	0.27	-0.017	0.21	-0.012	0.41
Size	0.007	0.62	-0.001	0.96	0.009	0.56
Age	0.044	0.02**	0.038	0.03**	0.034	0.08*
Leverage	0.007	0.74	0.006	0.77	-0.005	0.76
HighLevg	-0.066	0.22	-0.078	0.20	-0.139	0.06*
ROE <sub>t</sub>	0.005	0.20	0.009	0.01***	0.010	0.04**
BoardSize	0.007	0.40	0.012	0.11	0.014	0.14
OutsideDir	-0.076	0.26	-0.132	0.09*	-0.189	0.13
GFC	-0.039	0.00***	-0.017	0.37	0.000	0.99
Loss	-0.151	0.00***	-0.136	0.00***	-0.083	0.00***
Finance	0.051	0.31	0.060	0.22	0.094	0.17
Service	0.050	0.05**	0.066	0.01***	0.090	0.01***
Investments	-0.016	0.72	-0.022	0.67	-0.014	0.82
Property	0.012	0.67	0.018	0.59	0.021	0.59
Energy	-0.066	0.18	-0.064	0.25	-0.039	0.53
Primary	-0.025	0.45	-0.020	0.46	-0.006	0.89
<b>Panel B: Model Fits</b>						
R-squared	0.248		0.242		0.217	
F-value	12.93		9.14		8.58	
Prob>F	0.00		0.00		0.00	
No. of pooled observation	894		779		665	
<b>Panel C: Regression Diagnostics</b>						
AVIF (Max)			1.66 (3.06)			
2D cluster SE	ID - 115 and Year-9		ID -114 and Year-8		ID -110 and Year-7	
<b>Panel D: Wald Test</b>						
Coefficient Comparison ( <b>F stat</b> ):						
Prestg. MDS=						
Non-Prestg. MDS	3.71**		4.5**		1.73	

This table presents the results of the Ordinary Least Squares (OLS) estimates of equations (1) for ROE of in future years 1, 2 and 3. The two explanatory variables are Prestigious MDS and Non-Prestigious MDS. The regression models rely on *p*-values that account for two dimensions clusters, by both panels (i.e., by firms (i) and time (t)). AVIF is the average ‘variance inflation factor’ indicates the degree of collinearity problem among the regressors. The Wald (1943) test is used to assess the difference between coefficients of the respective estimates. \*, \*\*, \*\*\* indicate statistical significance at 10%, 5%, and 1% levels, respectively. See Table 5.5 for definitions of Dependent, Independent and Control Variables.

The results of prestigious MDS and non-prestigious MDS in relation to accounting firm performance thus support the hypothesis (H<sub>1</sub>) that the predicted relationship between MDS and firms accounting performance varies with the type of MDS (prestigious MDS and non-prestigious MDS). A differential impact for prestigious MDS and non-prestigious MDS is consistent with those prior studies that provide evidence on the differential effects between different categories of MDS on firms' outcomes. For example MDS between listed and non-listed firms (Loderer & Peyer, 2002), firms in related and non-related industries (Clements et al., 2015b) or larger and smaller firms (Clements et al., 2015a).

In addition, Wald (1943) statistics summarized in Panel D of Tables 6.5 to 6.7 indicate that the coefficients associated with prestigious MDS and non-prestigious MDS are generally larger and significantly different from each other, which confirms the prediction that there are firm accounting 'performance' differences between prestigious MDS and non-prestigious MDS.

The estimated coefficients of control variables offer further insights into the performance of New Zealand firms. For instance, the statistically significant positive coefficient on firm age indicates that mature firms perform better. Likewise, the statistically significant negative coefficient of the high leverage dummy demonstrates that firms with a higher level of debt in their capital structure perform worse. The negative coefficients of the dummy variable of global financial crisis, GFC, in the ROE model indicate that firms generate a lower level of profit from utilizing their equity over the GFC period; however, ROA was not affected in this period. It appears that New Zealand firms used more debt in order to survive in the global market during the GFC period.

#### 6.4.2 MDS and Market Measures of Firm Performance

Table 6.8 reports the results of the regressions between MDS and a firm's current year market performance, measured by stock return (R) and Tobin's Q, while controlling for firm size, firm age, leverage, book-to-market ratio, stock beta and industry factors.

Panel B of Table 6.8 shows that the F-statistics for the regression equations are statistically significant at the 1% level, which suggests a good overall fit for the models in estimating market firm performance among New Zealand companies. The  $R^2$  values are 12.9% and 33.2%, respectively, for stock return and Tobin's Q. The values of  $R^2$  suggest that the two categories of MDS have higher explanatory power in explaining Tobin's Q than stock return.

The second row of Panel A of Table 6.8 shows that having prestigious MDS on the board is associated with a 9.4% increase in stock return and a 0.156 points increase in Tobin's Q, and these results are significant at a 5% level, suggesting having prestigious MDS on the board is positively associated with market performance among the NZX companies.

With regard to non-prestigious MDS in the third row of Panel A, the coefficients are found to be positive but not significant for either stock return (0.011) or Tobin's Q (0.061). The results, thus, suggest there is no significant relationship between non-prestigious MDS and market performance. These findings lend support for hypothesis H<sub>2</sub>.

In addition, Wald (1943) statistics summarized in Panel D of Table 6.8 indicate that the coefficients associated with prestigious MDS and non-prestigious MDS are generally larger and significantly different from each other, which confirms the prediction (H<sub>2</sub>) that there are firm market 'performance' differences between prestigious MDS and non-prestigious MDS.

**Table 6.8 Market Performance of Current Year and MDS – (Main Results: H<sub>2</sub>)**

	Stock Return		Tobin's Q	
	Coef.	<i>p</i> -value	Coef.	<i>p</i> -value
<b>Panel A: Explanatory Variables</b>				
Intercept	0.018	0.81	2.005	0.00***
Prestg. MDS	0.094	0.02**	0.156	0.02**
Non-Prestg. MDS	0.011	0.58	0.061	0.20
Size	-0.052	0.02**	-0.314	0.00***
Age	0.129	0.00***	-0.068	0.48
Leverage	0.025	0.25	0.307	0.00***
Beta	0.002	0.88	0.035	0.05**
B2M	-0.079	0.00***	-0.061	0.12
Finance	0.088	0.05**	0.143	0.38
Service	0.148	0.00***	0.000	1.00
Investments	0.061	0.28	-0.102	0.51
Property	0.099	0.00***	-0.216	0.08*
Energy	-0.018	0.70	-0.065	0.56
Primary	0.060	0.20	-0.096	0.55
<b>Panel B: Model Fits</b>				
R-squared	0.129		0.332	
F-value	8.35		25.59	
Prob>F	0.00		0.00	
No. of pooled observation	962		966	
<b>Panel C: Regression Diagnostics</b>				
AVIF(max)	1.48 (2.18)		1.49 (2.18)	
2D cluster SE	ID - 116 and Year - 10			
<b>Panel D: Wald Test</b>				
Coefficient Comparison ( <b>F stat</b> ):				
Prestg. MDS=				
Non-Prestg. MDS	3.52*		3.51*	

This table presents the results of the Ordinary Least Squares (OLS) estimates of equations (2) for two market-based firm performance of current year, Stock Return and Tobin's Q at the end of the year. The two explanatory variables are Prestigious MDS and Non-Prestigious MDS. The regression models rely on *p*-values that account for two dimensions clusters, by both panels (i.e., by firms (i) and time (t)). AVIF is the average 'variance inflation factor' indicates the degree of collinearity problem among the regressors. The Wald (1943) test is used to assess the difference between coefficients of the respective estimates. \*, \*\*, \*\*\* indicate statistical significance at 10%, 5%, and 1% levels, respectively. See Table 5.5 for definitions of Dependent, Independent and Control Variables.

Table 6.9 summarizes the regression results of MDS and share return for subsequent years at times:  $t+1$ ,  $t+2$  and  $t+3$ . Panel B of Table 6.9 shows that the F-statistics for regression equations are statistically significant at the 1% level with an adjusted R-squared between 5 to 6 percent.

The results show that having prestigious MDS on the board is positively associated with all the three-year horizons share returns. The second row of Panel A of Table 6.9 shows that the coefficients for prestigious MDS on share return of one (0.047) and two (0.058) years ahead are statistically significant at the 10% and 5% level, respectively, whereas the three-year ahead share return is not significantly associated with prestigious MDS. This indicates that the effects of prestigious MDS on market performance may not continue after two years.

With regard to non-prestigious MDS in the third row of Panel A of Table 6.9, all the coefficients for non-prestigious MDS on share return are positive, but not statistically significant, suggesting that there is no significant association between a firm's future market performance and having non-prestigious MDS on the board.

The regression results for the relationship between MDS and a firm's market performance (Tables 6.8 and 6.9) also confirm the hypothesis ( $H_2$ ) that the predicted relationship between MDS and firm's market performance varies with the type of MDS (prestigious MDS and non-prestigious). Although the findings are consistent with the prediction, the market measures of firm performance lend weaker support regarding the differences between prestigious and non-prestigious MDS compared to the results obtained employing accounting measures.

The estimated coefficients of additional control variables of market performance models (Table 6.8) reveal the perspective of risk in relation to performance of New Zealand firms. The statistically significant negative coefficients of firm size (fourth row of Panel A)



indicate that larger firms are perceived to be riskier, therefore inducing a negative market reaction. Positive coefficients of stock beta (seventh row of Panel A) in both the market performance models (significant in the Q model) are consistent with the theoretical foundation of the capital asset pricing model. Finally, the statistically significant negative coefficient of book to market (eighth row of Panel A) in the stock return model shows that undervalued firms perform worse in the stock market.

**Table 6.9 Stock Return of Future Years and MDS – (Main Results: H<sub>2</sub>)**

	Stock Return One year ahead		Stock Return Two years ahead		Stock Return Three years ahead	
	Coef.	<i>p</i> -value	Coef.	<i>p</i> -value	Coef.	<i>p</i> -value
<b>Panel A: Explanatory Variables</b>						
Intercept	-0.124	0.15	-0.082	0.45	-0.088	0.45
Prestg. MDS	0.047	0.10*	0.058	0.05**	0.030	0.39
Non-prestg. MDS	0.021	0.32	0.014	0.48	0.023	0.33
Size	0.004	0.84	-0.004	0.83	-0.002	0.92
Age	0.055	0.00***	0.028	0.43	0.052	0.06*
Leverage	-0.028	0.40	-0.018	0.61	-0.001	0.98
Beta	0.026	0.11	0.033	0.09*	0.032	0.05**
B2M	0.018	0.17	0.014	0.25	0.011	0.38
Finance	0.013	0.82	-0.001	0.98	-0.012	0.85
Service	0.115	0.01***	0.121	0.03**	0.107	0.12
Investments	-0.081	0.27	-0.069	0.40	-0.051	0.57
Property	0.071	0.19	0.088	0.21	0.086	0.27
Energy	-0.046	0.37	-0.071	0.26	-0.102	0.11
Primary	0.018	0.74	0.059	0.36	0.060	0.45
<b>Panel B: Model Fits</b>						
R-squared	0.051		0.055		0.055	
F-value	3.41		3.29		3.13	
Prob>F	0.00		0.00		0.00	
No. of pooled observation	852		739		628	
<b>Panel C: Regression Diagnostics</b>						
AVIF (max)			1.48 (2.18)			
2D cluster SE	ID - 115 and Year-9		ID -114 and Year-8		ID -110 and Year-7	
<b>Panel D: Wald Test</b>						
Coefficient Comparison ( <b>F stat</b> ):						
Prestg. MDS=						
Non-Prestg. MDS	0.41		1.06		0.01	

This table presents the results of the Ordinary Least Squares (OLS) estimates of equations (2) for Stock Return of in future years 1, 2 and 3. The two explanatory variables are Prestigious MDS and Non-Prestigious MDS. The regression models rely on *p*-values that account for two dimensions clusters, by both panels (i.e., by firms (i) and time (t)). AVIF is the average ‘variance inflation factor’ indicates the degree of collinearity problem among the regressors. The Wald (1943) test is used to assess the difference between coefficients of the respective estimates. \*, \*\*, \*\*\* indicate statistical significance at 10%, 5%, and 1% levels, respectively. See Table 5.5 for definitions of Dependent, Independent and Control Variables.

## **6.5 Robustness Tests**

A number of tests have been carried out in order to check that the results obtained were robust. These include the tests of multicollinearity, heteroscedasticity, and different regression techniques. In addition, several tests have been carried out to address the issue of endogeneity between prestigious MDS and firm accounting performance.

### **6.5.1 Multicollinearity**

Multicollinearity could be a concern in a multivariate setting in which two or more independent variables are highly correlated. Because of multicollinearity, coefficient estimates may change substantially in response to small changes in the data (Allen, 1997).

The correlation matrices (Table 6.4 and 6.18) indicate that most of the correlation coefficients are less than the threshold ( $r = 0.8$ ). In order to double check, the variance inflation factor (VIF) for each variable (AVIF is reported in the Panel C of each Table) of the regression equations is calculated to measure the degree of relationship among the right-hand side variables. This indicated that multicollinearity is not a serious concern among the variables of the regression models as the highest VIF value is 3.06 in the performance models and 2.44 in the theoretical determinants models, both well below the threshold of 10 (Coenders & Saez, 2000).

### **6.5.2 Heteroscedasticity and Autocorrelation**

Heteroscedasticity and autocorrelation might be a concern that could also affect the results of the regression analysis. To address this issue, two of techniques have been applied. Firstly, most of the variables of interest in both parts are transformed using either the logarithmic function or the inverse hyperbolic sine function [ $\sinh^{-1}(x)$ ]. The reason for using two techniques is that in contrast to the logarithmic function, the inverse hyperbolic sine

function can accommodate negative and zero values for all variables. Secondly, the observations are clustered by both panels (i.e., by firms and time period) in both cases, following the procedure of Petersen (2009) to address random unobserved serial and cross-sectional correlation, respectively, (if any) in residuals.

### **6.5.3 Endogeneity**

The prior literature addresses the problem of endogeneity in governance studies (Hermalin & Weisbach, 2003; Wintoki et al., 2012). As market performance is externally determined, endogeneity should not be an issue in examining the effects of prestigious MDS on firm market performance. In contrast, when analyzing the effects of prestigious MDS on firm accounting performance, endogeneity may arise because of omitted unobserved firm characteristics (Adams & Ferreira, 2009). Omitted variables that affect both the selection of prestigious directors and firm performance may lead to inappropriate conclusions about the correlations between prestigious MDS and firm accounting performance. Several procedures are followed in order to address the concern of the possible endogenous relationship between prestigious MDS and firm accounting performance. Firstly, a panel data set is used reduce the omitted variables problem (Bøhren & Strøm, 2010). Secondly, the current year performance (lagged performance) is included as a control variable in the future performance models.

Finally, firm fixed effects (FE) are employed to address the concern that omitted firm characteristics could drive the results. Table 6.10 compares the regression results of ROA and MDS obtained from FE regressions with the results of OLS. The results of fixed effects regressions reported in Table 6.10 show that prestigious MDS are positively associated with ROA, which is consistent with the results of the OLS regression. Although the negative coefficient of non-prestigious MDS is not significant in the FE regression, this result supports the predictions ( $H_1$ ) related to the ‘performance’ differences between MDS. In particular, the

FE regressions indicate a more significant positive relationship between prestigious MDS and ROA (Prestg. MDS coefficient is 0.13 at a 1% level of significance) compared to the results of OLS (Prestg. MDS coefficient is 0.086 at a 10% level of significance).

**Table 6.10 ROA and MDS using Firm Fixed Effect and OLS Regression**

	Fixed Effects		OLS	
	Coef.	<i>p</i> -value	Coef.	<i>p</i> -value
<b>Panel A: Explanatory Variables</b>				
Intercept	-0.137	0.27	0.034	0.67
Prestg. MDS	0.130	0.00***	0.086	0.10*
Non-Prestg. MDS	-0.003	0.89	-0.033	0.08*
Size	0.095	0.01***	-0.020	0.60
Age	0.029	0.51	0.073	0.03**
Leverage	0.168	0.00***	0.040	0.19
HighLevg	-0.132	0.00***	-0.125	0.07*
BoardSize	0.007	0.47	0.002	0.83
OutsideDir	-0.116	0.21	0.056	0.56
GFC	0.009	0.58	0.014	0.56
Loss	-0.153	0.00***	-0.234	0.00***
<b>Panel B: Model Fits</b>				
R-squared	0.447		0.183	
F-value	9.51		14.29	
Prob>F	0.00		0.00	
No. of pooled observations	1020		1020	
<b>Panel C: Regression Diagnostics</b>				
2D Cluster	No		Yes	
Firm fixed effects	Yes		No	
Industry effects	No		Yes	

R-Squared is obtained from (areg Y X<sub>1</sub> X<sub>2</sub> ...X<sub>n</sub>, absorb (firm))

This table presents the results of Fixed Effects and Ordinary Least Squares (OLS) estimates of equation (1) for ROA at the end of the year. The two explanatory variables are Prestigious MDS and Non-Prestigious MDS. The regression models rely on *p*-values. \*, \*\*, \*\*\* indicate statistical significance at 10%, 5%, and 1% levels, respectively. See Table 5.5 for definitions of Dependent, Independent and Control Variables.

Another concern is reverse causality: that well-performing firms are likely to attract prestigious directors. The problem of reverse causality is addressed by means of Instrumental Variables (IV) methods. As documented in the prior literature, it is difficult to identify a purely exogenous instrument in governance studies that meet the criterion that it is correlated strongly with the endogenous independent variables and weakly with the dependent variable (Guest, 2009; Wintoki et al., 2012).

‘Cross-listed’ status is identified as the instrument that is strongly correlated with prestigious MDS (a coefficient of 0.48), but independent of firm performance (coefficient of 0.03 with ROA and 0.02 with ROE). Moreover, the results of the *t*-test show that the average number of prestigious MDS for the cross-listed group is significantly larger than that reported by the non-cross listed group at the 1% level (*t*-statistic = -12.73, *p*-value = 0.000 and Mann-Whitney *z*-statistic = -12.91, *p*-value = 0.000). The results as reported in Table 6.11 (the second and third rows) are consistent with the results of the OLS regression. The test statistics show that the instrument is valid: neither the Durbin  $\chi^2$  nor the Wu-Hausman *F*-statistic are significant. The results confirm that the regressions do not have endogeneity bias and there is a one-way causal effect of prestigious MDS on firm performance.

**Table 6.11 Firm Performance and MDS using 2SLS Instrumental Variables Regression**

	ROA		ROE	
	Coef.	p-value	Coef.	p-value
<b>Panel A: Explanatory Variables</b>				
Intercept	0.052	0.42	0.070	0.08*
Prestg. MDS	0.019	0.79	0.117	0.01***
Non-Prestg. MDS	-0.026	0.07*	-0.027	0.00***
Size	0.001	0.97	-0.025	0.10
Age	0.071	0.00***	0.047	0.00***
Leverage	0.035	0.10	0.001	0.94
HighLevg	-0.136	0.00***	-0.079	0.00***
BoardSize	-0.003	0.75	0.011	0.02**
OutsideDir	0.059	0.36	-0.072	0.08*
GFC	0.010	0.60	-0.021	0.08*
Loss	-0.228	0.00***	-0.290	0.00***
Finance	0.012	0.78	0.058	0.03**
Service	-0.013	0.61	0.025	0.14
Investments	0.101	0.02**	-0.044	0.11
Property	-0.012	0.73	0.001	0.98
Energy	-0.101	0.01**	-0.083	0.00***
Primary	-0.053	0.13	-0.043	0.06*
<b>Panel B: Instrumented Prestg. MDS and Instrument: CrossList</b>				
R-squared	0.173		0.432	
Wald chi2(16)	204.29		781.79	
Prob>F	0.00		0.00	
<b>Panel C: Tests of Endogeneity</b>				
Durbin (score) chi2(1)	1.04838 (p = 0.31)		2.42538 (p = 0.12)	
Wu-Hausman F(1,991)	1.03075 (p = 0.31)		2.38785 (p = 0.12)	
<b>Panel D: First-stage Regression Summary Statistics</b>				
Adjusted R-squared	0.337		0.337	
Partial R-squared	0.081		0.081	
F	87.38		87.38	
Prob>F	0.00		0.00	
2SLS relative bias (at 5%)	16.38		16.38	

This table presents the results of 2SLS Instrumental Variables of equations (1) for two accounting based firm performance of current year, ROA and ROE at the end of the year using 'cross-listed' as the instrument.



## 6.6 Sensitivity Analysis

Several additional tests are conducted to check the validity of the initial results using alternative measures of variables and regression techniques.

### 6.6.1 Changes over Time in the MDS-Performance Relation

I also employ the first-difference estimation for a regression of  $\Delta y_{it}$  on  $\Delta x_{it}$  to examine the implications of two categories of MDS on firm performance. The results are reported in Tables 6.12 and 6.13.

The coefficient estimate for  $\Delta$  Prestg. MDS in the ROA regression is 0.041, which is statistically significant at 10%, while there is no significant association between firm performance and non-prestigious MDS. The results of ROE, stock return and Tobin's Q regressions are mostly consistent with the OLS results. Thus, the results obtained from first-difference estimation are consistent with the OLS results.

**Table 6.12 First Difference Regressions of Accounting Performance and MDS**

	$\Delta$ ROA		$\Delta$ ROE	
	Coef.	<i>p</i> -value	Coef.	<i>p</i> -value
<b>Panel A: Explanatory Variables</b>				
Intercept	0.003	0.82	0.001	0.89
$\Delta$ Prestg. MDS	0.041	0.06*	0.007	0.70
$\Delta$ Non-Prestg. MDS	0.014	0.49	0.018	0.29
$\Delta$ Size	0.139	0.01***	-0.049	0.26
$\Delta$ Age	-0.062	0.66	0.028	0.81
$\Delta$ Leverage	-0.025	0.60	-0.211	0.00***
$\Delta$ BoardSize	-0.013	0.21	-0.003	0.75
$\Delta$ OutsideDir	0.168	0.15	0.178	0.07*
<b>Panel B: Model Fits</b>				
Adjusted R-squared	0.011		0.028	
F-value	2.45		4.73	
Prob>F	0.01		0.00	
No. of pooled observation			901	

This Table presents the results of first-difference regressions for two accounting-based firm performance, ROA and ROE at the end of the year.

**Table 6.13 First Difference Regressions of Market Performance and MDS**

	$\Delta$ Stock Return		$\Delta$ Tobin's Q	
	Coef.	<i>p</i> -value	Coef.	<i>p</i> -value
<b>Panel A: Explanatory Variables</b>				
Intercept	0.024	0.41	0.031	0.01***
$\Delta$ Prestg. MDS	0.157	0.00***	0.047	0.03**
$\Delta$ Non-Prestg. MDS	-0.060	0.20	-0.009	0.62
$\Delta$ Size	-0.471	0.00***	-1.052	0.00***
$\Delta$ Age	0.083	0.82	-0.302	0.04**
$\Delta$ Leverage	-0.154	0.17	0.233	0.00***
$\Delta$ Beta	-0.017	0.39	-0.013	0.13
$\Delta$ B2M	-0.101	0.00***	-0.039	0.00***
<b>Panel B: Model Fits</b>				
Adjusted R-squared	0.87		0.365	
F-value	12.68		71.49	
Prob>F	0.00		0.00	
No. of pooled observation			859	

This Table presents the results of first-difference regressions for two market-based firm performance, R and Q at the end of the year.

### **6.6.2 Excluding Finance Industry**

This study includes all the NZX listed firms of seven industry categories in the final sample to obtain results of data analysis from a comprehensive database. Moreover, prestigious MDS are commonly observed among the companies in the Finance Industry (highest in the Banking Sector, see Table 6.3). However, a large number of prior studies excluded finance industry observations of from their sample because of the unique characteristics of the finance industry—most notably, high leverage as well as the specific regulations and reporting procedures applicable to firms operating in the financial sector (Bhuiyan, 2010; Zakaria, 2012).

In order to check the robustness of key findings, all the regressions are repeated to examine the association between firm performance and MDS of two categories excluding the observations of the finance industry. The regression results of MDS and firm performance of the current year (reported in Tables 6.14 and 6.15) as well as future performance (not reported) are either similar to that for the full sample or sometimes the coefficients are higher compared to those obtained in the full sample models.

The results, therefore, suggest that there is no notable difference among the results of data sets including or excluding the finance industry regarding the relationship between MDS and firm performance.

**Table 6.14 Accounting Based Performance and MDS Excluding Finance**

	ROA		ROE	
	Coef.	<i>p</i> -value	Coef.	<i>p</i> -value
<b>Panel A: Explanatory Variables</b>				
Intercept	0.020	0.82	0.104	0.05**
Prestg. MDS	0.095	0.10*	0.050	0.06*
Non-Prestg. MDS	-0.039	0.06*	-0.018	0.12
Size	-0.015	0.73	-0.014	0.55
Age	0.084	0.01***	0.058	0.01***
Leverage	0.040	0.21	0.003	0.81
HighLevg	-0.104	0.20	-0.119	0.08*
BoardSize	0.002	0.81	0.008	0.18
OutsideDir	0.044	0.66	-0.092	0.09*
GFC	0.015	0.59	-0.020	0.07*
Loss	-0.238	0.00***	-0.279	0.00***
Service	-0.016	0.52	0.030	0.12
Investments	0.076	0.34	-0.013	0.73
Property	-0.016	0.67	0.005	0.79
Energy	-0.113	0.01***	-0.067	0.03**
Primary	-0.060	0.05**	-0.036	0.10
<b>Panel B: Model Fits</b>				
R-squared	0.189		0.461	
F-Value	15.07		29.49	
Prob>F	0.00		0.00	
No. of pooled observation	930			
<b>Panel C: Regression Diagnostics</b>				
AVIF (max)	1.66 (3.06)			
2D cluster SE	ID - 108 and Year -10			
<b>Panel D: Wald Test</b>				
Coefficient Comparison ( <b>F stat</b> ):				
Prestg. MDS=				
Non-Prestg. MDS	3.52*		3.51*	

This table presents the results of the Ordinary Least Squares (OLS) estimates of equations (1), excluding Finance industry observations, for two accounting based firm performance of current year, ROA and ROE at the end of the year. The two explanatory variables are Prestigious MDS and Non-Prestigious MDS. The regression models rely on *p*-values that account for two dimensions clusters, by both panels (i.e., by firms (i) and time (t)). AVIF is the average ‘variance inflation factor’ indicates the degree of collinearity problem among the regressors. The Wald (1943) test is used to assess the difference between coefficients of the respective estimates. Superscripts \*, \*\*, \*\*\* indicate statistical significance at 10%, 5%, and 1% levels, respectively. See Table 5.5 for definitions of Dependent, Independent and Control Variables.

**Table 6.15 Market-based Firm Performance and MDS Excluding Finance**

	Stock Return (R)		Tobin's Q (T)	
	Coef.	<i>p</i> -value	Coef.	<i>p</i> -value
<b>Panel A: Explanatory Variables</b>				
Intercept	0.029	0.72	2.094	0.00***
Prestg. MDS	0.107	0.02**	0.161	0.02**
Non-Prestg. MDS	0.005	0.80	0.078	0.12
Size	-0.061	0.03**	-0.360	0.00***
Age	0.139	0.00***	-0.076	0.44
Leverage	0.024	0.29	0.315	0.00***
Beta	0.001	0.95	0.035	0.06*
B2M	-0.081	0.00***	-0.066	0.12
Service	0.151	0.00***	0.007	0.95
Investments	0.058	0.33	-0.124	0.39
Property	0.102	0.00***	-0.197	0.13
Energy	-0.016	0.73	-0.041	0.73
Primary	0.061	0.23	-0.083	0.60
<b>Panel B: Model Fits</b>				
R-squared		0.132		0.353
F-Value		8.17		26.32
Prob>F		0.00		0.00
No. of pooled observation		883		887
<b>Panel C: Regression Diagnostics</b>				
AVIF (max)		1.48		1.49
2D cluster SE		ID - 107 and Year -10		
<b>Panel D: Wald Test</b>				
Coefficient Comparison (F stat):				
Prestg. MDS=		2.89*		0.8
Non- Prestg. MDS				

This table presents the results of the Ordinary Least Squares (OLS) estimates of equations (2), excluding Finance industry observations, for two market-based firm performance of current year, Stock Return and Tobin's Q at the end of the year. The two explanatory variables are Prestigious MDS and Non-Prestigious MDS. The regression models rely on *p*-values that account for two dimensions clusters, by both panels (i.e., by firms (i) and time (t)). AVIF is the average 'variance inflation factor' indicates the degree of collinearity problem among the regressors. The Wald (1943) test is used to assess the difference between coefficients of the respective estimates. \*, \*\*, \*\*\* indicate statistical significance at 10%, 5%, and 1% levels, respectively. See Table 5.5 for definitions of Dependent, Independent and Control Variables.

### 6.6.3 Total Board MDS and Firm Performance

This study categorizes MDS into two groups with the anticipation that ‘prestige’ related differences might exist between these two categories. As a robustness test, ‘total board MDS’<sup>12</sup> is employed as the single independent variable instead of two different categories of MDS in the performance models. Tables 6.16 and 6.17 report the regression results of total board MDS and firm performance of the current year.

The results of Table 6.16 show that there is no significant association between a firm’s accounting performance and total board MDS, indicating that the total MDS is unable to explain the true relationship between MDS and firms’ accounting performance

On the other hand, Table 6.17 indicates that the coefficients for total board MDS with stock return and Tobin’s Q are positive and statistically significant. It appears that there is no difference between the results of total and decomposed MDS in relation to market firm performance. However, the coefficients indicate stronger economic significance of prestigious MDS compared to total MDS; for instance, an increase by 1 in average prestigious MDS is associated with a 9.4% increase in stock return and a 15.6 points increase in Tobin’s Q whereas those numbers are 4.5% and 12.9 points for stock return and Tobin’s Q, respectively, with total MDS. This suggests that the examining MDS categories may produce better results than the combined approach.

Finally, the results obtained from the regressions of total board MDS and a firm’s future performance (not reported) are similar to that of total board MDS and firm performance of the current year.

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<sup>12</sup> This measure of MDS is commonly employed in the prior studies on MDS (Cashman et al., 2012; Lei & Deng, 2014; O’Sullivan, 2009; Perry & Peyer, 2005; Sarkar & Sarkar, 2009).

**Table 6.16 Accounting Firm Performance and Total Board MDS**

	ROA		ROE	
	Coef.	<i>p</i> -value	Coef.	<i>p</i> -value
<b>Panel A: Explanatory Variables</b>				
Intercept	0.046	0.58	0.083	0.10
Board MDS	-0.013	0.53	0.001	0.95
Size	0.012	0.68	0.014	0.28
Age	0.069	0.05**	0.042	0.04**
Leverage	0.034	0.30	-0.007	0.66
HighLevg	-0.144	0.03**	-0.103	0.06*
BoardSize	-0.004	0.56	0.004	0.44
OutsideDir	0.055	0.59	-0.070	0.22
GFC	0.008	0.71	-0.029	0.01***
Loss	-0.225	0.00***	-0.280	0.00***
Finance	0.011	0.81	0.053	0.24
Service	-0.017	0.51	0.024	0.20
Investments	0.108	0.23	-0.002	0.96
Property	-0.019	0.55	-0.007	0.66
Energy	-0.101	0.01***	-0.074	0.02**
Primary	-0.054	0.11	-0.039	0.10
<b>Panel B: Model Fits</b>				
R-squared	0.165		0.435	
F-value	14.15		30.22	
Prob>F	0.00		0.00	
No. of pooled observation	1009			
<b>Panel C: Regression Diagnostics</b>				
2D cluster SE	ID - 116 and Year-10			

This table presents the results of the Ordinary Least Squares (OLS) estimates of equations (1) for two accounting based firm performance of current year, ROA and ROE at the end of the year. Single explanatory variable is Board MDS, instead of two categories. The regression models rely on *p*-values that account for two dimensions clusters, by both panels (i.e., by firms (i) and time (t)). \*, \*\*, \*\*\* indicate statistical significance at 10%, 5%, and 1% levels, respectively. See Table 5.5 for definitions of Dependent, Independent and Control Variables.

**Table 6.17 Market Firm Performance and Total Board MDS**

	Stock Return		Tobin's Q	
	Coef.	<i>p</i> -value	Coef.	<i>p</i> -value
<b>Panel A: Explanatory Variables</b>				
Intercept	-0.014	0.86	1.932	0.00***
Board MDS	0.045	0.01***	0.129	0.02**
Size	-0.030	0.03**	-0.287	0.00***
Age	0.120	0.00***	-0.080	0.39
Leverage	0.016	0.53	0.293	0.00***
Beta	0.002	0.88	0.035	0.06*
B2M	-0.079	0.00***	-0.060	0.13
Finance	0.071	0.08	0.116	0.47
Service	0.144	0.00***	-0.006	0.96
Investments	0.082	0.16	-0.079	0.62
Property	0.092	0.01***	-0.228	0.05**
Energy	-0.011	0.80	-0.056	0.61
Primary	0.060	0.21	-0.099	0.53
<b>Panel B: Model Fits</b>				
R-squared	0.122		0.329	
F-value	8.44		27.48	
Prob>F	0.00		0.00	
No. of pooled observation	962		966	
<b>Panel C: Regression Diagnostics</b>				
2D cluster SE	ID - 116 and Year-10			

This table presents the results of the Ordinary Least Squares (OLS) estimates of equations (2), excluding Finance industry observations, for two market-based firm performance of current year, Stock Return and Tobin's Q at the end of the year. Single explanatory variable, Board MDS, instead of two categories. The regression models rely on *p*-values that account for two dimensions clusters, by both panels (i.e., by firms (i) and time (t)). \*, \*\*, \*\*\* indicate statistical significance at 10%, 5%, and 1% levels, respectively. See Table 5.5 for definitions of Dependent, Independent and Control Variables.



#### **6.6.4 Alternative Measures of Variables**

The robustness of key findings are tested with alternative measures of dependent variables, such as profit margin. The estimated coefficient on prestigious MDS is positive, (0.219), while the coefficient on non-prestigious MDS is negative (0.105) and both are statistically significant at 5% (not reported). The results suggest that prestigious MDS on the board are positively associated with firm profitability, and that this relationship is negative for non-prestigious. MDS. With regard to future profitability, similar results (not reported) have been obtained. The results, therefore, are consistent with those for key measures of firms accounting performance.

In addition, regressions are repeated using untransformed (raw value) numbers of MDS as well as alternative transformation techniques, such as taking logarithms of MDS. The results (not reported) are consistent with the key results for both cases, with improved statistical significance.

#### **6.7 Summary**

Part A presents the results of the multivariate analysis to examine the performance implications of the two categories of multiple directorships (MDS): prestigious MDS and non-prestigious MDS. The univariate indicators show that the correlations between prestigious MDS and all firm performance measures except Tobin's Q are positive and statistically significant, while the correlations between non-prestigious MDS and all firm performance measures except Tobin's Q are negative and statistically significant.

The empirical results indicate that prestigious MDS are associated with better accounting performance of both the current and future years, while non-prestigious MDS are negatively associated with both categories of a firm's accounting performance. With regard to market performance, the results of prestigious MDS are consistent with those for accounting

performance, while results display no significant association between non-prestigious MDS and firms' market performance. The findings from the empirical results, therefore, confirm the prediction that there are firm 'performance' differences between prestigious MDS and non-prestigious MDS (see Table 6.29).

The results obtained from the two-stage Instrumental Variables approach suggest one-way causal effects of prestigious MDS on firm performance. Overall, the results of robustness tests and sensitivity analyses are mostly consistent with the initial results and enhance the validity of the main empirical results.

## **PART B: THEORETICAL DETERMINANTS OF MDS**

The empirical analysis carried out in Part A documents evidence regarding firm ‘performance’ differences between prestigious MDS and non-prestigious MDS. The findings support the argument that ‘prestige’ related differences exist between MDS. Based on this, the second part of this study examines the theoretically-informed firm-specific characteristics that explain the differences between the two categories of MDS (prestigious versus non-prestigious) on a given board. That is, the theoretically-informed determinants of the two categories of MDS. Although the term ‘determinants’ is used, the purpose of this part is to test ‘association’ rather than ‘causality’.

Part B of this chapter presents the results for the determinants of MDS models. Section 6.8 presents the results of the correlation analysis. Section 6.9 provides findings of the empirical results. Section 6.10 discusses econometric issues relating to the empirical procedures employed in this Part. Section 6.11 explains several sensitivity tests to support the robustness of the results. A summary of Part B is provided in section 6.12.

### **6.8 Correlation Analysis: Determinants of MDS**

A correlation analysis is conducted for all the main variables of determinants of MDS models to show the direction and strength of the linear relationship between pairs of variables. Table 6.18 reports Pearson pairwise sample correlations between variables employed in the determinants of MDS models.

These univariate indicators provide some initial estimates about the relationships between variables; however, some indications are contrary to the predictions. With regard to prestigious MDS, the correlation coefficients on firm size and free cash flow are positive while it is negative for growth opportunity. On the other hand, non-prestigious MDS are negatively correlated with firm size and free cash flow, which is positive for growth opportunities.

However, both types of MDS are negatively correlated with CEO tenure, having no association with CEO director. With regard to correlations among independent variables, firm size is positively correlated with most of the key independent variables, while it is negatively correlated with growth opportunity and CEO tenure. This indicates that CEOs might not be able to exercise their power in larger firms. Free cash flow is negatively correlated with growth opportunities and CEO director, whereas growth is positively correlated with leverage and CEO director.

Overall, significant correlations exist between some variables; however, none of the correlation coefficients recorded in Table 6.18 exceeds the  $r = 0.8$  threshold. Thus, multicollinearity might not be a concern for regression models (3) and (4). Further, the issue of multicollinearity has been discussed in Section 6.5.1.

**Table 6.18 Pearson Correlation Matrix for Variables of Determinants Models**

Variables (N= 1020)	1	2	3	4	5	6	7	8	9	10	11
(1) Prestg. MDS	1.00										
(2) Non-Prestg. MDS	0.05*	1.00									
(3) Size	0.39***	-0.23***	1.00								
(4) Growth	-0.07**	0.10***	-0.32***	1.00							
(5) FCF	0.05*	-0.11***	0.25***	-0.16***	1.00						
(6) Leverage	-0.05*	-0.01	0.22***	0.22***	-0.01	1.00					
(7) CeoDirector	0.02	-0.03	-0.04	0.17***	-0.05*	-0.05*	1.00				
(8) CeoTenure	-0.10***	-0.08***	-0.05*	0.09***	0.03	-0.07**	0.23***	1.00			
(9) Perf <sub>ROA</sub>	0.17***	-0.09***	0.16***	0.00	0.29***	-0.01	-0.03	0.07**	1.00		
(10) BoardSize	0.10***	-0.13***	0.65***	-0.09***	0.13***	0.20***	-0.10***	-0.07**	0.09***	1.00	
(11) OutsideDir	0.10***	0.03	0.29***	-0.21***	0.12***	0.11***	-0.75***	-0.22***	0.06**	0.34***	1.00

This table shows Pearson correlation matrix for MDS, Firm Characteristics and Control Variables. \*, \*\*, \*\*\* indicate statistically significant at the 0.1, 0.05 and 0.01 levels. See Table 5.6 for variables definitions.

## 6.9 Multivariate Analysis: Theoretical Determinants of MDS

This section presents the results for tests of the hypotheses related to determinants of the two categories of MDS: prestigious MDS and non-prestigious MDS developed within the framework of three governance theories (Resource Dependence, Agency and Managerial Hegemony) in Chapter 4. The explanatory variables are firm size (Size), growth opportunity (Growth), leverage (Leverage), free cash flow (FCF), CEO tenure (CeoTenure) and CEO Director (CeoDirector). Firm performance (Perf<sub>ROA</sub>), board size (BoardSize) and the proportion of outside directors (outsideDir) are included as control variables. Ordinary Least Squares (OLS) regression models are employed, and the observations are clustered by both panels, by firms and time-period, following the procedure of Petersen (2009) to address random unobserved serial and cross-sectional correlation, respectively, (if any) in residuals.

The main results are summarized in Table 6.19. Panel B of this table reveals that the F-statistics for both regressions are statistically significant at the 1% level, which suggests a good overall fit for the models. The R<sup>2</sup> values are 30.9 % and 11.2 %, respectively, for prestigious and non-prestigious MDS. The values of R squared indicate that the theoretically-informed firm-specific characteristics have higher explanatory power in explaining the variations in prestigious MDS compared to non-prestigious MDS. In addition, Panel C of Table 6.19 shows that multicollinearity among the explanatory variables should not be a concern in estimating the regression equation as indicated by the average variation inflation factor (AVIF).

With regard to Resource Dependence hypotheses H<sub>3</sub> and H<sub>4</sub>, two proxies, firm size and growth opportunity, are employed. The second and third rows of Panel A of Table 6.19 show that the coefficients for both firm size and growth opportunity are positive and statistically significant at the 1% level, in the prestigious MDS regression. On the other hand, the coefficient

of firm size is negative and statistically significant at the 1% level, and the coefficient of growth opportunity is positive, but not statistically significant in the non-prestigious MDS regression.

The first row of Panel D of Table 6.19 shows statistically significant F-statistics of Wald (1943) tests for the joint significance of these two coefficients, firm size and growth opportunity for prestigious MDS and non-prestigious MDS. This indicates that the increased demand for critical resources of larger as well as growing firms are likely to be associated with the number or proportion of prestigious MDS on the board, while firm size is negatively associated with non-prestigious MDS. The results indicate that firm size and growth opportunity may be the important determinants of the choice between prestigious MDS and non-prestigious MDS on the board. Thus, H<sub>3</sub> and H<sub>4</sub> are supported with respect to both categories of MDS.

Two proxies, free cash flow and leverage, are employed to test the Agency theory hypotheses, H<sub>5</sub> and H<sub>6</sub>. The fourth and fifth rows of Panel A of Table 6.19 show that the coefficients for both measures, free cash flow and leverage, are negative in the prestigious MDS regression and statistically significant. The coefficient of free cash flow is negative and that of leverage is positive in the non-prestigious MDS regression, but neither of them is statistically significant.

In addition, the second row of Panel D of Table 6.19 shows the indicators of Wald (1943) tests for the joint significance of these two coefficients, for free cash flow and leverage. This indicates statistically significant F-statistics for prestigious MDS, but not for non-prestigious MDS. Thus, H<sub>5</sub> and H<sub>6</sub> are well supported, showing that there is a significant relationship between prestigious MDS and Agency theory variables, while there is no significant association of these variables with non-prestigious MDS. The results indicate that prestigious MDS on the board are associated with a lower level of free cash flow, and highly

leveraged firms tend to have fewer prestigious MDS on the board. Hence, Agency theory rationales are supported for prestigious MDS.

With regard to Managerial Hegemony hypotheses, H<sub>7</sub> and H<sub>8</sub>, CEO tenure and CEO director are employed to indicate the CEO influence. The sixth row of Panel A of Table 6.19 shows that the coefficient of CEO tenure is negative and significant at the 5% level in the prestigious MDS regression, while the coefficient for CEO director in the seventh row of Panel A is not statistically significant. The coefficients of both measures of MHT are negative, but neither is significant in the non-prestigious MDS regression.

The third row of Panel D of Table 6.19 shows the indicators of the Wald (1943) tests for the joint significance of these two coefficients, CEO tenure and CEO director. The F-statistics for prestigious MDS are statistically significant, while the F-value is not significant for non-prestigious MDS. Thus, overall the MHT hypotheses (7 and 8) are partially supported as CEO tenure is negatively related to prestigious MDS, while there is no significant association between CEO director and prestigious MDS. The results indicate that firms tend to have a smaller number or proportion of prestigious MDS on the board in the presence of CEOs with longer tenure supporting H<sub>7</sub>; while CEO power is not a significant determinant of non-prestigious MDS.

The results for control variables provide additional insights into the forces that influence the differences between prestigious and non-prestigious MDS on a given board. The positive and statistically significant coefficients for outside directors indicate that the number of prestigious MDS is positively related to the percentage of outside directors on a given board. Similarly, the statistically significant positive coefficient for firm performance in the prestigious MDS regression indicates that the number of prestigious MDS on the board increases with better firm performance. Table 6.19 shows a negative and statistically significant



coefficient of board size in the prestigious MDS regression, which is contrary to the prediction. However, this may arise because of employing average MDS as the dependent variables. Repeating the regressions, using total MDS of both categories as the dependent variables (not reported), yields results indicating that board size is positively associated with both categories, but statistically significant only for non-prestigious MDS (coefficient is 2.1) at 1%. As the total prestigious MDS is not significantly related to board size, an increase in board size may result in a decrease in the average prestigious MDS.

**Table 6.19 Theoretical Determinants of MDS - Main Result: (H3-H8)**

	Prestg. MDS		Non-Prestg. MDS	
	Coef.	<i>p</i> -value	Coef.	<i>p</i> -value
<b>Panel A: Explanatory Variables</b>				
Intercept	0.05	0.84	0.91	0.06*
Size	0.31	0.00***	-0.18	0.00**
Growth	0.25	0.00***	0.07	0.70
FCF	-0.06	0.08*	-0.06	0.25
Leverage	-0.15	0.08*	0.06	0.65
CeoTenure	-0.12	0.05**	-0.18	0.12
CeoDirector	0.11	0.23	0.18	0.24
Perf <sub>ROA</sub>	0.19	0.04**	-0.10	0.37
BoardSize	-0.08	0.00***	0.00	0.99
OutsideDir	0.40	0.09*	0.82	0.11
Finance	-0.12	0.41	0.18	0.38
Service	0.07	0.36	0.33	0.07*
Investments	0.37	0.02**	0.24	0.33
Property	0.08	0.40	0.49	0.05**
Energy	0.16	0.19	0.22	0.35
Primary	0.13	0.27	0.22	0.37
<b>Panel B: Model Fits</b>				
R Squared		0.309		0.112
F-value		35.53		9.52
Prob > F		0.00		0.00
No. of pooled observation			1009	
<b>Panel C: Regression Diagnostics</b>				
AVIF (max)			1.7 ( 2.81)	
2D cluster SE			Firm ID 116 and Year 10	
<b>Panel D: Wald Test (F stat) for joint significance of</b>				
RDT (Size & Growth), F(2, 1008)		33.03***		5.27**
AT (Leverage & FCF) , F(2, 1008)		2.81**		1.01
MHT (CeoTenure & CeoDirector, F(2, 1008)		2.71**		1.94

This table presents the results of the Ordinary Least Squares (OLS) estimates of equations (3) and (4). The regression models rely on *p*-values that account for two dimensions clusters, by both panels (i.e., by firms (i) and time (t)). AVIF is the average ‘variance inflation factor’ indicates the degree of collinearity problem among the regressors. The Wald (1943) test is used to assess the joint significance of the respective estimates. \*, \*\*, \*\*\* indicate statistical significance at 10%, 5%, and 1% levels, respectively. See Table 5.6 for definitions of Dependent, Independent and Control Variables.

## **6.10 Robustness Tests - Endogeneity**

To address the issue of multicollinearity and heteroscedasticity, similar techniques used in Part A (discussed in the sections 6.5.1 and 6.5.2) are employed in Part B. However, reverse causality should not be a concern in examining theoretical determinants of the two categories of MDS, as the purpose is to test the ‘association’, not the ‘causality’. Hence, several measures are applied to reduce endogeneity in some explanatory variables.

Firstly, the regressions are repeated including lagged values of both categories of MDS, (Prestg.  $MDS_{L1}$ ) and (Non-Prestg.  $MDS_{L1}$ ), as instrumental variables in the respective prestigious MDS and non-prestigious MDS determinants regressions. Moreover, a simultaneous equation model (three-stage least squares, 3SLS) is estimated for prestigious and non-prestigious MDS. Finally, the firm fixed effects method is used to address the concern that omitted firm characteristics could drive the results.

### **6.10.1 Lag of Dependent Variables Simultaneously**

Prior studies on determinants of board structure (e.g., Boone et al., 2007; Linck et al., 2008; Pathan & Skully, 2010) consider board structure variables, for instance, board size, independence, and CEO duality as endogenous variables. In order to capture the interactions between different board structure variables, the lagged values of these (dependent) variables are simultaneously employed as explanatory variables. Following prior studies, this study includes lagged values of non-prestigious MDS in the prestigious MDS regression and the lag of prestigious MDS in the non-prestigious MDS regression, assuming that two different categories of MDS could be endogenous.

The results reported in Table 6.20 do not show any significant deviations from the main results reported in Table 6.19 except for free cash flow (fourth row of Table 6.20), which is no longer statistically significant. The eleventh and twelfth rows show the statistically significant

positive coefficients for both categories of lag MDS, indicating that the numbers of both MDS are significantly associated with the prior period number of the other, while the coefficient of prestigious MDS (0.23) is much larger than that of non-prestigious MDS (0.09). The results are consistent with the general perception that prestige can attract more positions.

**Table 6.20 Theoretical Determinants of MDS including Lag of Dependent Variables**

	Prestg. MDS		Non-Prestg. MDS	
	Coef.	<i>p</i> -value	Coef.	<i>p</i> -value
<b>Panel A: Explanatory Variables</b>				
Intercept	-0.11	0.64	0.99	0.05**
Size	0.32	0.00***	-0.26	0.00***
Growth	0.22	0.00***	0.03	0.89
FCF	-0.07	0.12	-0.08	0.19
Leverage	-0.17	0.05**	0.05	0.72
CeoTenure	-0.11	0.09*	-0.19	0.11
CeoDirector	0.10	0.28	0.13	0.42
Perf <sub>ROA</sub>	0.20	0.03**	-0.13	0.25
BoardSize	-0.08	0.00***	0.02	0.42
OutsideDir	0.42	0.09*	0.62	0.25
Non-Prestg. MDS <sub>L1</sub>	0.09	0.04**	-	-
Prestg. MDS <sub>L1</sub>	-	-	0.23	0.06*
Finance	-0.12	0.43	0.19	0.38
Service	0.06	0.44	0.32	0.07*
Investments	0.38	0.03**	0.14	0.61
Property	0.06	0.58	0.53	0.04**
Energy	0.16	0.22	0.17	0.48
Primary	0.14	0.25	0.16	0.50
<b>Panel B: Model Fits</b>				
R Squared	0.326		0.142	
F-value	30.59		11.38	
Prob > F	0.00		0.00	
No. of pooled observation	891			

**Panel C: Regression Diagnostics**

2D cluster SE

Firm ID 115 and Year 9

This table presents the results of the Ordinary Least Squares (OLS) estimates of equations (3) and (4) including Lag of dependent variables simultaneously as Instruments. The regression models rely on *p*-values that account for two dimensions clusters, by both panels (i.e., by firms (i) and time (t)). \*, \*\*, \*\*\* indicate statistical significance at 10%, 5%, and 1% levels, respectively. See Table 5.6 for definitions of Dependent, Independent and Control Variables.

### **6.10.2 Results for Three-stage Least Squares (3SLS)**

Following Agrawal and Knoeber (1996), first, this study estimates the relationships among theoretically-informed explanatory variables of determinant models in a simultaneous system. Six linear regressions are estimated employing each of the explanatory variables of determinants models as dependent variables. The results in Table 6.21 reveal that theoretically-informed determinants are mutually dependent.

Next, following Pathan and Skully (2010), a simultaneous system using 3SLS technique (excluding industry-specific variables) is employed to examine the relationships between theoretically-informed firm-specific characteristics and two categories of MDS. The 3SLS regression allows for interdependence between explanatory variables of the regression models examining the determinants of the two categories of MDS.

The results, which are reported in Table 6.22, are almost similar but with improved statistical significance to those reported in Table 6.19 (main results) except for the Managerial Hegemony variables. The sixth row of Table 6.22 shows that the coefficients for CEO tenure are negative and significant in both regressions, while the coefficients for CEO director in the seventh row are positive and significant for both prestigious MDS and non-prestigious MDS regressions. These results indicate that firms tend to have a smaller number or proportion of multiple directors (both categories) on the board in the presence of CEOs with longer tenure, while firms are likely to have a larger number of MDS (both categories) in the presence of the CEO on the board as a director.

Because of these differences in the results between the 3SLS models (Table 6.22) and those reported in Table 6.19, MHT variables lend weak support regarding the differences between prestigious MDS and non-prestigious MDS. However, these deviations in findings do not affect my inferences, even with direct control for endogeneity using 3SLS.

**Table 6.21 Coefficient Estimates of Theoretically-Informed Explanatory Variables using Simultaneous (2SLS) Regressions**

Independent Variables	Dependent Variables											
	Size		Growth		FCF		Leverage		CeoDirector		CeoTenure	
Intercept	-0.533	0.05**	0.500	0.00***	-0.446	0.02**	-0.863	0.00***	2.466	0.00***	0.800	0.00***
Size	-	-	-0.167	0.00***	0.101	0.00***	0.131	0.20	0.066	0.00***	0.000	0.98
Growth	-0.817	0.00***	-	-	-0.118	0.01***	0.390	0.05**	0.066	0.00***	0.067	0.06*
FCF	0.213	0.00***	-0.051	0.01***	-	-	-0.027	0.00***	0.066	0.0***1	0.030	0.20
Leverage	0.421	0.00***	0.258	0.00***	-0.041	0.29	-	-	-0.025	0.25	-0.056	0.05**
CeoDirector	0.440	0.00***	0.090	0.01***	0.007	0.90	-0.051	0.06*	-	-	0.123	0.00***
CeoTenure	0.001	0.98	0.053	0.06*	0.055	0.20	-0.067	0.98	0.072	0.00***	-	-
Perf <sub>ROA</sub>	0.306	0.00***	0.112	0.00***	0.495	0.00***	-0.076	0.02**	-0.023	0.48	0.098	0.02**
BoardSize	0.331	0.00***	0.044	0.00***	-0.012	0.35	0.001	0.81	0.021	0.00***	-0.002	0.81
OutsideDir	1.086	0.00***	-0.228	0.07*	0.210	0.27	0.134	0.04**	-2.538	0.00***	-0.281	0.04**
R-squared	0.545		0.242		0.135		0.149		0.596		0.066	
F-value	153.55		41.71		20.93		23.39		189.58		10.09	
Prob>F	0.00		0.00		0.00		0.00		0.00		0.00	
N	1020											

This table shows the relationships among theoretically-informed firm-specific characteristics, which are estimated in a simultaneous system using six linear regressions, employing each of the explanatory variables of determinants models as dependent variables.

**Table 6.22 Theoretical Determinants of MDS using 3SLS Regression**

	Prestg. MDS		Non-Prestg. MDS	
	Coef.	<i>p</i> > <i>z</i>	Coef.	<i>p</i> > <i>z</i>
<b>Panel A: Explanatory Variables</b>				
Intercept	0.158	0.30	1.059	0.00***
Size	0.285	0.00***	-0.169	0.00***
Growth	0.194	0.00***	0.058	0.37
FCF	-0.080	0.00***	-0.054	0.21
Leverage	-0.195	0.00***	0.039	0.47
CeoTenure	-0.146	0.00***	-0.148	0.01***
CeoDirector	0.126	0.01***	0.159	0.04***
PerfROA	0.218	0.00***	-0.101	0.21
BoardSize	-0.085	0.00***	-0.006	0.72
OutsideDir	0.498	0.00***	0.923	0.00***
<b>Panel B: Model Fits</b>				
R Squared	0.260		0.082	
chi2	358.73		91.01	
P-Value	0.00		0.00	
No. of pooled observation		1020		
Endogenous variables: Prestg. MDS Non-Prestg. MDS				
Exogenous Variables: Size Growth FCF Leverage CeoTenure CeoDirector BoardSize OutsideDir				

This table presents the results of the 3SLS estimates of equations (3) and (4) considering prestigious and non-prestigious MDS as endogenous variables. The regression models rely on *p*-values. \*, \*\*, \*\*\* indicate statistical significance at 10%, 5%, and 1% levels, respectively. See Table 5.6 for definitions of Dependent, Independent and Control Variables.



### **6.10.3 Results for Fixed Effects Regression**

In order to address the concern that omitted firm characteristics could drive the results, firm fixed effects method is employed in both prestigious MDS and non-prestigious MDS regressions. The results, which are reported in Table 6.23, are almost similar to those reported in Table 6.19 (main results) with a few notable differences. In prestigious the MDS regression, the coefficients on free cash flow (fourth row) and CEO tenure (sixth row) are no longer statistically significant. Likewise, in the non-prestigious MDS regression the coefficient for Size (second row) is not statistically significant, while the positive coefficients for leverage (fifth row) and CEO director (seventh row) are now statistically significant. This means that highly leveraged firms as well as firms with the CEO on the board as a director tend to have a larger number of non-prestigious MDS. These differences in results provide stronger evidence regarding the differences between prestigious MDS and non-prestigious MDS.

Thus, even with control for firm fixed effects, this study finds evidence that the needs for critical resources and effective monitoring as well as CEO power could explain the differences in numbers between prestigious MDS and non-prestigious MDS on the board.

**Table 6.23 Theoretical Determinants of MDS using Firm Fixed Effects Regression**

	Prestg. MDS		Non-Prestg. MDS	
	Coef.	<i>p</i> -value	Coef.	<i>p</i> -value
<b>Panel A: Explanatory Variables</b>				
Intercept	0.595	0.00***	0.843	0.00***
Size	0.154	0.00***	0.031	0.57
Growth	0.108	0.00***	0.081	0.17
FCF	-0.016	0.36	0.034	0.22
Leverage	-0.184	0.00***	0.285	0.00***
CeoTenure	-0.015	0.59	-0.010	0.82
CeoDirector	-0.070	0.12	0.278	0.00***
Perf <sub>ROA</sub>	0.119	0.00***	0.004	0.94
BS	-0.035	0.00***	-0.043	0.01***
OutsideDir	0.073	0.58	0.794	0.00***
<b>Panel B: Model Fits</b>				
R-Squared *	0.821		0.795	
F-value	8.52		5.50	
Prob > F	0.00		0.18	
No. of pooled observation			1020	
<b>Panel C: Regression Diagnostics</b>				
Firm Fixed Effects			Yes	
Industry Effects			No	

\*R-Squared is obtained from (areg Y X<sub>1</sub> X<sub>2</sub> ... X<sub>n</sub>, absorb (firm))

This table presents the results of the Firm Fixed Effects estimates of equations (3) and (4) The regression models rely on *p*-values. \*, \*\*, \*\*\* indicate statistical significance at 10%, 5%, and 1% levels, respectively. See Table 5.6 for definitions of Dependent, Independent and Control Variables.

## **6.11 Sensitivity Analysis**

I have conducted several additional tests to identify the validity of the initial results using alternative measures of variables and regression techniques.

### **6.11.1 Changes over Time in the Firm Characteristics-MDS Relation**

To address the problem of omitted variables in a panel data set, I employ the first-difference estimation for a regression of  $\Delta y_{it}$  on  $\Delta x_{it}$ . The results reported in Table 6.24 indicate that the coefficients for changes in free cash flow (fourth row), leverage (fifth row) and CEO tenure (sixth row) are negative and significant in the prestigious MDS regression which is consistent with the main results.

In addition, the directions of the coefficients for other variables except Growth (third row) in both regressions remain the same, though not significant. The sign has been changed for the coefficient on Growth in both regressions. However, this deviation does not affect the validity of the overall results reported in Table 6.19, as it is not statistically significant.

**Table 6.24 Theoretical Determinants of MDS using First-Difference Regression**

	Prestg. MDS		Non-Prestg. MDS	
	Coef.	<i>p</i> -value	Coef.	<i>p</i> -value
<b>Panel A: Explanatory Variables</b>				
Intercept	0.01	0.30	0.04	0.00
Δ Size	0.04	0.30	-0.03	0.77
Δ Growth	-0.02	0.69	-0.08	0.33
Δ FCF	-0.02	0.00***	0.00	0.88
Δ Leverage	-0.16	0.07*	0.03	0.75
Δ CeoTenure	-0.10	0.09*	0.00	0.96
Δ CeoDirector	0.02	0.34	-0.03	0.63
Δ BoardSize	-0.03	0.00***	-0.03	0.05**
Δ OutsideDir	-0.05	0.82	-0.29	0.22
<b>Panel B: Model Fits</b>				
R Squared	0.040		0.017	
F-value	4.86		1.44	
Prob > F	0.00		0.18	
No. of pooled observation			901	
<b>Panel C: Regression Diagnostics</b>				
2D cluster SE	ID - 116 and Year - 9			

This table presents the results of the First-Difference Regression of equations (3) and (4). The regression models rely on *p*-values. \*, \*\*, \*\*\* indicate statistical significance at 10%, 5%, and 1% levels, respectively. See Table 5.6 for definitions of Dependent, Independent and Control Variables.

### **6.11.2 Excluding Finance Industry**

In order to check the robustness of the key findings, all the regressions are repeated to examine the association between firm characteristics and MDS of the two categories excluding the finance industry observations. The results reported in Table 6.25 do not show any significant deviations from the results reported in Table 6.19.

The results, therefore, suggest that there is no notable difference among the results of data sets including or excluding finance industry regarding the theoretical determinants of MDS of the two categories.

**Table 6.25 Theoretical Determinants of MDS Excluding Finance**

	Prestg. MDS		Non- Prestg. MDS	
	Coef.	<i>p</i> -value	Coef.	<i>p</i> -value
<b>Panel A: Explanatory Variables</b>				
Intercept	0.15	0.54	0.85	0.10*
Size	0.34	0.00***	-0.14	0.04**
Growth	0.25	0.00***	0.11	0.58
FCF	-0.07	0.06*	-0.07	0.22
Leverage	-0.14	0.10*	0.04	0.73
CeoTenure	-0.11	0.07*	-0.17	0.15
CeoDirector	0.07	0.41	0.18	0.25
Perf <sub>ROA</sub>	0.17	0.11	-0.12	0.31
BoardSize	-0.09	0.00**	0.00	0.88
OutsideDir	0.28	0.23	0.79	0.15
Service	0.07	0.35	0.33	0.07*
Investments	0.39	0.02**	0.26	0.29
Property	0.07	0.46	0.49	0.06*
Energy	0.15	0.23	0.22	0.36
Primary	0.14	0.23	0.22	0.37
<b>Panel B: Model Fits</b>				
R Squard	0.304		0.093	
F-value	31.24		7.50	
Prob > F	0.00		0.00	
No. of pooled observation	930			
<b>Panel C: Regression Diagnostics</b>				
2D cluster SE	ID - 108 and Year - 10			

This table presents the results of the Ordinary Least Squares (OLS) estimates of equations (3) and (4) excluding the observations of Finance industry. The regression models rely on *p*-values that account for two dimensions clusters, by both panels (i.e., by firms (i) and time (t)). \*, \*\*, \*\*\* indicate statistical significance at 10%, 5%, and 1% levels, respectively. See Table 5.6 for definitions of Dependent, Independent and Control Variables.

### **6.11.3 Total MDS as Dependent Variable**

In order to check the association between total MDS and firm characteristics, total Board MDS is employed as the dependent variable instead of the two different categories of MDS. The regression results are inconclusive when based on total board MDS (Board MDS) as reported in Table 6.26.

That shows that there is no significant association between total board MDS and firm characteristics, except for CEO tenure (sixth row), indicating that total MDS is unable to explain the true relationship between MDS and firm characteristics.

**Table 6.26 Theoretical Determinants of Total MDS (Full Sample and Excluding Finance)**

	Board MDS (Full Sample)		Board MDS (Excluding Finance)	
	Coef.	<i>p</i> -value	Coef.	<i>p</i> -value
<b>Panel A: Explanatory Variables</b>				
Intercept	1.07	0.00***	1.11	0.01***
Size	0.04	0.46	0.07	0.25
Growth	0.19	0.23	0.21	0.19
FCF	-0.07	0.19	-0.08	0.17
Leverage	0.00	0.99	-0.01	0.94
CeoTenure	-0.19	0.06*	-0.18	0.09*
CeoDirector	0.19	0.12	0.18	0.16
Perf <sub>ROA</sub>	-0.05	0.71	-0.07	0.62
BoardSize	-0.05	0.15	-0.05	0.11
OutsideDir	0.78	0.06*	0.67	0.12
Finance	0.12	0.47	-	-
Service	0.26	0.08*	0.27	0.08*
Investments	0.42	0.05**	0.43	0.04**
Property	0.41	0.05**	0.40	0.06*
Energy	0.22	0.26	0.22	0.27
Primary	0.25	0.26	0.26	0.24
<b>Panel B: Model Fits</b>				
R Squared	0.083		0.085	
F-value	7.44		7.79	
Prob > F	0.00		0.00	
No. of pooled observation	1009		930	
<b>Panel C: Regression Diagnostics</b>				
2D cluster SE	ID - 116 and Year - 10	ID - 108 and Year - 10		

This table presents the results of Ordinary Least Squares (OLS) estimates of equations (3) and (4); using single explanatory variable, Board MDS, instead of two categories. Two columns presents the regression results of Full sample and excluding the observations of Finance industry. The regression models rely on *p*-values that account for two dimensions clusters, by both panels (i.e., by firms (i) and time (t)). \*, \*\*, \*\*\* indicate statistical significance at 10%, 5%, and 1% levels, respectively. See Table 5.6 for definitions of Dependent, Independent and Control variables.



#### **6.11.4 ‘Busyness’ as a Control Variable**

As prior studies suggest that an ‘experience’ effect and a ‘busyness’ effect of MDS are not mutually exclusive and one may be overshadowed by the other depending on the circumstances, average total MDS per director is included to control the ‘busyness’ of the multiple director (Clements et al., 2015a, 2015b). Based on that assumption, both regressions are re-estimated including the mean number of directorships per director (Board MDS) to control the ‘busyness’ of the multiple director.

The results, which are reported in Table 6.27, are almost similar to those reported in Table 6.19 (main results) with only a few notable differences. In the prestigious MDS regression, the coefficients for free cash flow (fourth row) and CEO tenure (sixth row) are no longer statistically significant, while the coefficient for growth opportunity is negative and significant in the non-prestigious MDS regression. This suggests that RDT explanations regarding the differences between the two categories of MDS remain the same, even with direct control for the ‘busyness’ of directors. However, the AT and MHT hypotheses lend partial support regarding these differences. That is, ‘busyness’ of directors may influence the Agency theory as well as Managerial Hegemony explanations of the differences between MDS of the two categories.

**Table 6.27 Theoretical Determinants of MDS including ‘Busyness’ as a Control Variable**

	Prestg. MDS		Non-Prestg. MDS	
	Coef.	<i>p</i> -value	Coef.	<i>p</i> -value
<b>Panel A: Explanatory Variables</b>				
Intercept	-0.32	0.15	-0.22	0.25
Size	0.30	0.00***	-0.22	0.00***
Growth	0.18	0.01***	-0.13	0.01***
FCF	-0.04	0.18	0.01	0.44
Leverage	-0.15	0.04**	0.06	0.23
CeoTenure	-0.05	0.28	0.02	0.55
CeoDirector	0.04	0.61	-0.03	0.64
Perf <sub>ROA</sub>	0.21	0.00***	-0.05	0.23
Board MDS	0.34	0.00***	1.05	0.00***
BoardSize	-0.06	0.00***	0.05	0.00***
OutsideDir	0.13	0.56	0.00	0.99
Finance	-0.16	0.22	0.06	0.55
Service	-0.02	0.79	0.05	0.36
Investments	0.23	0.12	-0.20	0.10*
Property	-0.06	0.55	0.06	0.39
Energy	0.08	0.43	-0.01	0.93
Primary	0.05	0.64	-0.04	0.57
<b>Panel B: Model Fits</b>				
R Squared	0.481		0.859	
F-value	70.88		550.65	
Prob > F	0.00		0.00	
No. of pooled observation	1009			
<b>Panel C: Regression Diagnostics</b>				
2D cluster SE	Firm ID 116 and Year 10			

This table presents the results of the Ordinary Least Squares (OLS) estimates of equations (3) and (4) including ‘Busyness’ (Board MDS) as an additional control variable. The regression models rely on *p*-values that account for two dimensions clusters, by both panels (i.e., by firms (i) and time (t)). \*, \*\*, \*\*\* indicate statistical significance at 10%, 5%, and 1% levels, respectively. See Table 5.6 for definitions of Dependent, Independent and Control Variables.

### 6.11.5 Alternative Data Transformation Techniques

In order to check the robustness of the key findings of Part B, both regressions are repeated using untransformed (raw value) numbers of MDS, total numbers instead of average as well as alternative transformation techniques, such as taking the logarithm of MDS. In most of the cases, the results (not reported) are consistent with the key results in both regressions<sup>13</sup>.

The determinants regressions, equation (3) and (4), are repeated using logarithms to transform the dependent variables: the two categories of multiple directorships. The results are reported in Table 6.28. The results remain almost unchanged but with improved statistical significance. However, the number of observations is reduced to 937 (actual number of observations 1020). This is because the logarithm does not take zero values and the prestigious MDS distribution does contain some. The inverse hyperbolic sine transformation allows inclusion of all the available observations.

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<sup>13</sup> Regression equations are also repeated using actual value of leverage and the results obtained are almost similar.

**Table 6.28 Theoretical Determinants of MDS – using Logarithmic Transformation**

	Prestg. MDS		Non-Prestg. MDS	
	Coef.	<i>p</i> -value	Coef.	<i>p</i> -value
<b>Panel A: Explanatory Variables</b>				
Intercept	-0.464	0.00***	-0.008	0.98
Size	0.188	0.00***	-0.070	0.04**
Growth	0.156	0.00***	0.049	0.61
FCF	-0.032	0.00***	-0.034	0.21
Leverage	-0.086	0.04**	0.017	0.79
CeoTenure	-0.089	0.03**	-0.112	0.08*
CeoDirector	0.039	0.51	0.085	0.34
Perf <sub>ROA</sub>	0.121	0.04**	-0.035	0.58
BoardSize	-0.061	0.00***	-0.002	0.91
OutsideDir	0.308	0.08*	0.385	0.25
Finance	-0.017	0.87	0.140	0.17
Service	0.019	0.73	0.150	0.14
Investments	0.217	0.02**	0.106	0.44
Property	0.048	0.47	0.237	0.09*
Energy	0.081	0.32	0.097	0.48
Primary	0.058	0.47	0.124	0.33
<b>Panel B: Model Fits</b>				
R Squared	0.256		0.068	
F-value	24.11		5.03	
Prob > F	0.00		0.00	
No. of pooled observation	937			
<b>Panel C: Regression Diagnostics</b>				
2D cluster SE	Firm ID 115 and Year 10			

This table presents the results of the Ordinary Least Squares (OLS) estimates of equations (3) and (4). The dependent variables- two categories of MDS are transformed using logarithm instead of IHS. The regression models rely on *p*-values that account for two dimensions clusters, by both panels (i.e., by firms (i) and time (t)). \*, \*\*, \*\*\* indicate statistical significance at 10%, 5%, and 1% levels, respectively. See Table 5.6 for definitions of Dependent, Independent and Control Variables.

### **6.11.6 Determine Structural Change between Small and Large firms**

In order to determine whether the likelihood of prestigious MDS on the board has changed for smaller firms and larger firms, the entire sample has been grouped into two subsamples, larger firms versus smaller firms, using the median total assets of NZD 231.542 m as the basis. The Chow Test performed for two 'firm size' categories (smaller firms and larger firms) rejects the null hypothesis that there is no structural change occurs in modelling prestigious MDS for smaller firms and larger firms.

The results of regression analysis (not reported) for smaller firms do not show any significant deviations from the main results for prestigious MDS reported in Table 6.19 except for the Managerial Hegemony variables. That is, the coefficients on CEO tenure is no longer statistically significant while the positive coefficient on CEO director is now statistically significant. This means that smaller firms are likely to be young firms and CEO tenure of smaller firms may not be longer and hence, there is no significant relationship between CEO tenure and prestigious MDS in smaller firms. The significant positive relationship between CEO director and prestigious MDS suggests that smaller firms are likely to have a larger number of MDS in the presence of the CEO on the board as a director.

Because of these differences in the results for smaller firms and those reported in Table 6.19, MHT variables lend weak support, however, these deviations in findings do not affect my inferences regarding the relationship between prestigious MDS and the theoretically-informed firm-specific characteristics.

The results of regression analysis (not reported) for larger firms are almost similar to those reported in Table 6.19 (main results) except for the Agency theory variables. In the larger firm regression, the coefficients for free cash flow and leverage are no longer statistically significant. This suggests that RDT explanations for prestigious MDS are more relevant to

larger firms. However, the MHT hypotheses lend partial and AT hypotheses lend no support regarding the relationship between prestigious MDS and the theoretically-informed firm-specific characteristics.

Thus, the Chow Test performed on prestigious MDS indicates a structural change has occurred in the choice of MDS between smaller firms and larger firms. This means firm size plays an important role in determining the number or proportion of prestigious MDS on the board. In comparison, the results exhibit a stronger relationship between theoretically-informed firm-specific characteristics and prestigious MDS for smaller firms relative to larger firms. These findings are consistent with the evidence obtained by (Clements et al., 2015a), who find that directors having experience in larger companies are likely to provide more benefits to the smaller companies.

#### **5.8.6 Time Series vs. Cross-sectional Dependence**

This study also uses the Fama-MacBeth methodology to test the cross-sectional relationship between theoretically-informed firm-specific characteristics and directorship choices (prestigious vs non-prestigious), splitting the sample into separate years. The results (not reported) are consistent with the key findings (Table 6.19) and are robust to alternative model specifications and that theoretically-informed firm-specific characteristics are significantly associated with prestigious MDS relative to non-prestigious MDS. Almost all the firm-specific variables have the similar association, both in terms of sign and scale, using the Fama-MacBeth regressions as compared with the key regression models.

## 6.12 Summary

The main findings regarding the theoretically-informed-determinants of the two categories of multiple directorships (MDS), prestigious MDS and non-prestigious MDS, indicate that both firm size and growth opportunity are positively associated with prestigious MDS. The findings also reveal that the number of non-prestigious MDS decreases with firm size. This supports Resource Dependence hypotheses for both categories of MDS.

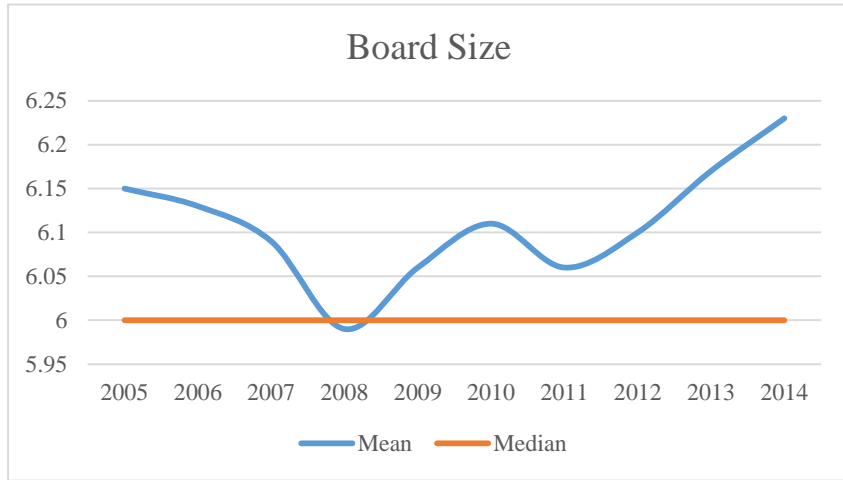
In addition, the results suggest that prestigious MDS are associated with a lower level of free cash flow, and highly leveraged firms tend to have fewer prestigious MDS on the board. This supports the Agency theory hypotheses for prestigious MDS.

The results also document that firms tend to have a smaller number or proportion of prestigious MDS on the board in the presence of CEOs with longer tenure, only partially supporting the Managerial Hegemony theory. There is no significant relationship between non-prestigious MDS and most of the explanatory variables except firm size.

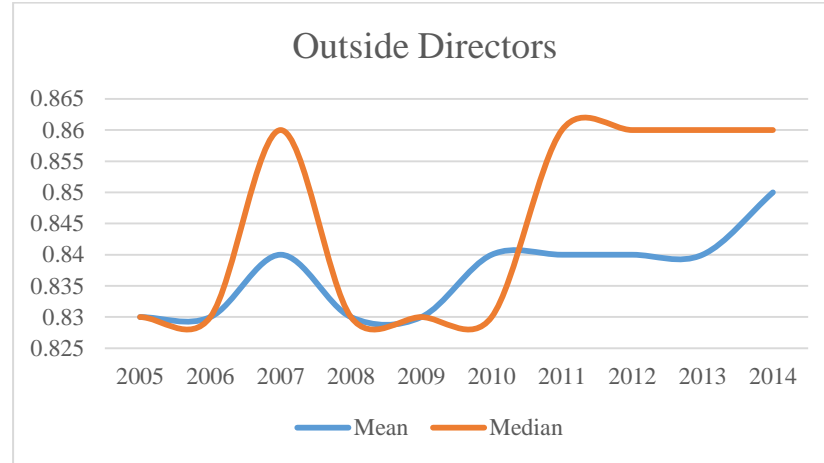
The results obtained from different robustness tests and sensitivity analysis are mostly consistent with the main results, with a few notable differences that do not change the interpretation of the results and, therefore, do not affect the inferences of this study. The findings of empirical analysis in Part B indicate that all three theories have some explanatory power in predicting the potential determinants of firms' choices between prestigious and non-prestigious multiple directorships (See Table 6.30). In particular, the findings highlight the significant explanatory power of Resource Dependence and Agency theories, while MHT appears to have partial explanatory power. The findings are further discussed in Chapter 7.

**Figure 6.1: Board and Multiple Directorships Structure Trends: 2005-2014**

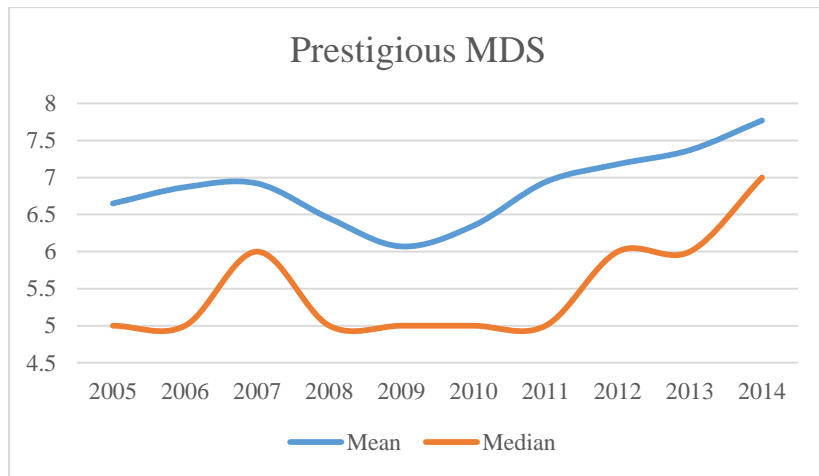
Panel A: Board Size



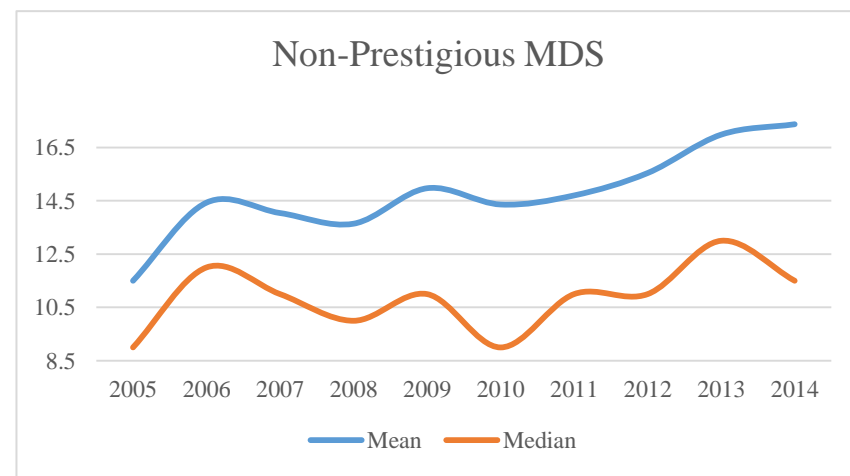
Panel B: Proportion of Outside Directors



Panel C: Prestigious MDS



Panel D: Non-Prestigious MDS





**Table 6.29 MDS and Firm performance (Predictions and Results)**

		<u>Dependent variable- Firm Performance</u>					
		<u>Theories</u>					
<u>Relation</u>	<u>Explanatory Variables</u>	<u>RDT</u>		<u>AT</u>		<u>MHT</u>	
		<u>Perf<sub>ACC</sub></u>	<u>Perf<sub>MKT</sub></u>	<u>Perf<sub>ACC</sub></u>	<u>Perf<sub>MKT</sub></u>	<u>Perf<sub>ACC</sub></u>	<u>Perf<sub>MKT</sub></u>
Prediction	Prestigious MDS	+	+	+	+	+	+
	Non-Prestigious MDS	+/-	+/-	-	+/-	-	+/-
Results	Prestigious MDS	Accounting Performance- Positive and Significant			Market Performance- Positive and Significant		
	Non-Prestigious MDS	Accounting Performance- Negative and Significant			Market Performance- Positive but not Significant		

This table exhibits the expected relationship and results of data analysis: Prestigious/ Non-Prestigious MDS and two categories of Firm Performance: Accounting and Market performance with reference to Governance Theories

**Table 6.30 Determinants of Prestigious MDS and Non-Prestigious MDS (Predictions and Results)**

Dependent Variable	Relation	<u>Explanatory Variables According to Governance Theories</u>					
		<u>RDT</u>	<u>AT</u>	<u>MHT</u>			
		Firm Size	Growth opportunity	Leverage	Free cash flow	CEO Tenure	CEO Director
Prestigious MDS	Prediction	Positive	Positive	Negative	Negative	Negative	Negative
	Results	Positive and Significant	Positive and Significant	Negative and Significant	Negative and Significant	Negative and Significant	Positive but not Significant
Non-Prestigious MDS	Prediction	Negative/ No significant relationship	Negative/ No significant relationship	?	No significant relationship	?	No significant relationship
	Results	Negative and Significant	Positive but not Significant	Positive but not Significant	Negative but not Significant	Negative but not Significant	Positive but not Significant

This table shows the expected relationship and results of data analysis of Determinants of two categories of MDS with reference to Governance Theories

## **CHAPTER SEVEN**

### **DISCUSSION AND CONCLUSION**

The purpose of this final chapter is to conclude this study by, firstly, providing an overview of the motivations of this research, the research framework and an overall summary of the findings, followed by a discussion on findings drawn from the empirical work conducted for this thesis. Next, the contributions of this research to the academic literature and their implications for practice are outlined. This is followed by the major limitations associated with the empirical work reported in the thesis. Finally, Section 7.8 discusses the remaining issues to be solved in future research.

#### **7.1 Motivation of the Research**

Multiple directors, almost by definition, are likely to be exposed to a wider variety of organisational practices and better connected to diverse operating environments (see e.g., Carpenter & Westphal, 2001; Clements et al., 2013; Coles et al., 2012; Ferris et al., 2003; Field et al., 2013; Stuart & Yim, 2010). Multiple directorships (MDS), therefore, are seen as a means of connecting the firm to important information and resource networks as well as bringing diverse insights into strategic and governance issues and trends of different organizations to the corporate board. Despite the potential benefits of multiple directorships, there is a concern that directors who serve on multiple boards may be overcommitted because of time fragmentation which may lead them to be ineffective (Fich & Shivdasani, 2006; Harris & Shimizu, 2004; Jiraporn et al., 2009a; Kang, 2014). The issue of causes and consequences of multiple directorships, therefore, is still a topic of considerable debate in corporate governance research.

A large body of literature on multiple directorships examines whether multiple directors are beneficial or detrimental for an organisation. However, findings generated to date have been inconclusive and contradictory, which prompts the question ‘whether certain types of MDS are better or worse’. This study is primarily motivated by the inconclusive findings of the prior literature on MDS along with the recent debate surrounding whether there are differences between different categories of MDS in terms of their perceived quality and status (Gupta et al., 2008).

This thesis is also motivated by the premise that current findings are mostly based on US firms with a few from the context of other larger countries, such as the UK and Australia, which may not be relevant in countries with different institutional and market environments. This, for example, little is known about the causes and consequences of MDS in small economies such as New Zealand (NZ). In New Zealand, the incidence of MDS is primarily driven by the shortage of expert directors as well as the need to develop business networks in order to survive in export markets. However, there is little research examining the motivations of appointing multiple directors to the board or whether companies with certain types of multiple directors on their boards are likely to outperform companies that do not appoint such directors. This suggests a gap in the literature requiring further investigation to explore the value of multiple board experience within the context of New Zealand. Based on these research gaps, this study extends prior research on MDS by examining the ‘prestige’ related differences between multiple directorships in a non-US setting, like that in New Zealand.

## **7.2 Research Framework**

This thesis began with the establishment of a theoretical framework, adopting a multiple-theory research framework that builds on insights from three different, but

complementary, governance theories, namely, Resource Dependence Theory (RDT), Agency Theory (AT) and Managerial Hegemony Theory (MHT).

From the perspective of RDT, MDS is recognised as an important means of creating linkages between an organization and external contingencies (Kiel & Nicholson, 2006; Zahra & Pearce, 1989). Moreover, because of the differences in firm-specific characteristics and the nature of environments within which firms operate, it is argued that prestigious MDS relative to non-prestigious MDS are likely to provide boards with access to crucial information and engagement with wider contracting environments, as well as contribute to raising their visibility within the business community. Prestigious multiple directors, therefore, may be better able to minimize uncertainties of their firms in accessing critical resources and hence achieve potentially better financial outcomes. This also suggests that some firms may need more prestigious multiple directors than others because of their need to get access to a greater range of resources.

From the perspective of AT, multiple board experience is considered an important means of developing monitoring ability (Keys & Li, 2005; Kor & Sundaramurthy, 2009; Li & Ang, 2000), while multiple directors are likely to be ineffective in controlling agency conflicts because of being overcommitted (Ahn et al., 2010; Harris & Shimizu, 2004). In this vein, it is arguable that directorships in prestigious firms compared to non-prestigious firms may help and motivate directors to develop their monitoring ability by providing relevant experience, in-depth knowledge and reliable information. This may outweigh any potential costs associated with the generation of these benefits. Prestigious multiple directors, therefore, are expected to contribute more in performing the board's role of managing agency conflicts, hence may help in producing better financial outcomes. Furthermore, firms with an increased need for

monitoring management may have more prestigious directors on the board as a mechanism to mitigate agency conflicts.

From the perspective of MHT, prestigious directors are likely to be more concerned about their professional reputation, which motivates them to discharge their oversight responsibilities effectively (Ferris et al., 2016). Given that prestigious directors have more opportunities for future jobs, they are less likely to be influenced by the management. Thus, prestigious directors are expected to be effective in minimizing the influence of CEOs on board-level decision making, leading to effective monitoring of agency conflicts and that may have a positive impact on firm performance. This suggests that prestigious directors are unlikely to be appointed (or would decline the appointment offer) to firms in which management (CEO) has influence over the director nomination process as well as a dominating role on the board (Shivdasani & Yermack, 1999; Withers et al., 2012; Zajac & Westphal, 1996).

Taken together, the above arguments suggest that board memberships of prestigious firms relative to non-prestigious firms may enhance the ability of the directors to offer premium monitoring and resource providing services to the governing board. Similarly, prestigious directors are less likely to be influenced by powerful CEOs, hence serve the best interests of the organization. This suggests that the differences between prestigious and non-prestigious MDS on the board is explainable from these three theoretical perspectives. The theories together, therefore, are expected to provide a useful basis for examining firm 'performance' differences between two categories (prestigious and non-prestigious) of MDS and to explore why these differences may exist. The first effort made, therefore, is to determine whether prestigious MDS relative to non-prestigious MDS bring better performance outcomes to their organizations and thereby to see whether such distinctions are worth exploring further.

### **7.3 Summary of Empirical Findings**

This thesis has a twofold objective: (i) to determine whether there are differences between the implications of prestigious MDS and non-prestigious MDS for corporate performance; and (ii) if there are differences, what explains the differences between prestigious MDS and non-prestigious MDS on a given board. That is, the purpose of the second objective is to understand the theoretically-informed determinants of directorship choices (prestigious vs non-prestigious) on a given board.

The sampling for this study draws on data from all New Zealand listed companies with the final sample comprising panel data of 116 companies. The sample covers 1022 firm-years with financial reporting periods ending between 1 January 2005 and 31 December 2014. This study employs Ordinary Least Squares (OLS) regression to test the hypotheses, with the observations clustered both by firms and time period.

#### **7.3.1 Findings of Performance Implications of MDS**

The first set of regressions examine the association between MDS of two categories (prestigious and non-prestigious) and firm accounting performance. This study finds evidence that prestigious MDS on the board are associated with better accounting performance of a firm, while non-prestigious MDS are negatively associated with the firm's accounting performance.

The second set of regressions examine the association between MDS of two categories and market performance, measured by Stock Return and Tobin's Q. The findings also reveal that prestigious MDS are positively associated with market performance, while there is no significant relationship between non-prestigious MDS and market performance.

The results are robust for both prestigious and non-prestigious MDS when long-term firm performance measures are employed as the dependent variable. Moreover, the results obtained from two-stage Instrumental Variables (IV) regressions as well as regressions including firm fixed effects indicate that the regressions do not have endogeneity bias, suggesting a one-way causal relationship between prestigious MDS and firm performance. These results are invariant to alternative adjustments for sensitivity analysis.

The findings, therefore, support the prediction that there are firm ‘performance’ differences between prestigious MDS and non-prestigious MDS. The market measures of firm performance, however, lend weaker support regarding this differential impact compared to the results obtained employing accounting measures.

### **7.3.2 Findings of Theoretically-informed Determinants of MDS**

Having determined that prestigious MDS relative to non-prestigious MDS are associated with better performance outcomes for their organizations, this thesis aims to explore the possible sources that explain such distinctions by examining the theoretically-informed determinants of two categories of MDS. That is, the theoretically-informed firm-specific characteristics that explain the differences between two categories of directorship choices (prestigious vs non-prestigious) on a given board. Although the term ‘determinants’ is used, the purpose is to test the ‘association’ rather than ‘causality’.

With respect to Resource Dependence hypotheses, two measures are used: firm size and growth opportunity. This study finds that the number or proportion of prestigious MDS is positively associated with both firm size and growth. On the other hand, firm size is negatively associated with non-prestigious MDS, and there is no significant association between growth



and non-prestigious MDS. These findings are consistent with the prediction of RDT that prestigious MDS are positively associated with firms' requirements for provision of resources.

Two measures: free cash flow (FCF) and leverage are employed to test the hypotheses of Agency theory. This study documents that both FCF and leverage are negatively associated with prestigious MDS. This negative relation of FCF and leverage with prestigious MDS is consistent with the predictions of Agency theory. This study, however, does not find any significant relationship between Agency theory variables and non-prestigious MDS.

The Managerial Hegemony hypotheses are tested using two measures: CEO tenure and CEO director. The results reveal that CEO tenure is associated with a lower number of prestigious MDS on the board, however there is no significant relationship between CEO director and prestigious MDS. The findings also indicate that both CEO tenure and CEO director have no significant relation with the number or proportion of non-prestigious MDS on a given board. The results indicate that firms tend to have a smaller number or proportion of prestigious MDS on the board in the presence of CEOs with longer tenure.

These results are invariant to diagnostic and consistency tests conducted to check the validity of the findings. The results obtained from sensitivity analysis do not show any significant deviations from the main results except for FCF and CEO tenure, which are often not statistically significant. However, these deviations in results do not affect the inferences of this study. The findings of this section suggest that the differences between prestigious MDS and non-prestigious MDS of a corporate board are explainable in terms of Resource Dependence, Agency and Managerial Hegemony theories, and these explanations are stronger for prestigious MDS.

## **7.4 Discussion of Findings**

This section interprets the empirical findings described in the former section. The first part discusses the findings related to financial implications of both prestigious and non-prestigious MDS followed by a discussion of the findings on the determinants of these two categories of MDS.

### **7.4.1 Performance Implications of MDS**

The results from regression analysis show that prestigious MDS on the board are associated with better firm performance (both accounting and market). These findings are consistent with the evidence obtained by Loderer and Peyer (2002), who find a positive effect of MDS of listed companies on firm performance. Similarly, in a series of studies Clements et al. (2015a) find a significant positive impact of MDS experience at larger firms on corporate governance effectiveness. Adding to this, Clements et al. (2015b) find that directors' experience in related (similar) industries are associated with enhanced corporate governance effectiveness. This suggests that not all MDS are the same, and MDS of certain firms are likely to produce better value than their counterparts.

Findings also reveal that there is a negative association between non-prestigious MDS and firm accounting performance, which is consistent with the evidence obtained by Loderer and Peyer (2002), who find that MDS of non-listed companies has a negative effect on firm performance.

The results also show that there is no significant effect of non-prestigious MDS on market performance of the firm. The reason could be that the market performance of a firm is determined exogenously (investors' perspective) and investors are likely to react positively

when they see prestigious MDS on the board with a perception that their companies are in good hands, while investors may not be concerned for non-prestigious MDS.

The following subsections provide further discussions on the findings related to the differential impact of the two MDS categories on firm performance from the perspectives of Resource Dependence, Agency and Managerial Hegemony theories.

#### **7.4.1.1 Resource Dependence and Performance**

The positive impact of prestigious MDS on firm performance can be explainable from the perspective of Resource Dependence theory. A higher number of prestigious MDS on the board means the board is largely composed of directors of other prestigious firms and is linked to firms with established business reputations, which in turn provides connectivity to a wider contracting environment and enhances the reputation and legitimacy of the firm (Bazerman & Schoorman, 1983; Kiel & Nicholson, 2006; Pfeffer & Salancik, 1978). This could help firms in securing critical resources and obtaining support from influential stakeholders that may be critical to the organization's performance (Barroso-Castro et al., 2016; Zahra & Pearce, 1989).

In addition, the connectivity to other prestigious firms allows timely access to reliable information regarding customer preferences, industry and market conditions, as well as possible regulatory changes, which are also crucial for firm growth as well as performance (Kor & Sundaramurthy, 2009). Finally, prestigious directors should be better able to advise management on important strategic issues in the light of experience and information gained on prestigious boards. Thus, a number of potential resources arise from the connectivity developed through prestigious MDS in terms of acquiring critical resources, gaining legitimacy and initiating new business relationships that could yield economic benefits to the firm, leading to better performance.

On the other hand, a negative relationship between non-prestigious MDS and firm performance could support the argument of inefficiency. This means the directors of non-prestigious firms may not be able to bring valuable commercial contacts to their firms. Moreover, non-prestigious firms may lack legitimacy (prestige) and be less acquainted with the environment (Shu & Lewin, 2016). Hence, connections to non-prestigious firms are unlikely to enhance the reputation of the firm. This suggests that non-prestigious MDS are not value-enhancing for the firm.

In New Zealand, prestigious MDS, relative to non-prestigious MDS, are more likely to allow firms to develop trustworthy mutual connectivity within and across firms as suggested by McCann (2003)<sup>14</sup>. This may provide advantageous access to capital, trade and ideas between entities as well as facilitate transmission of tacit information required to survive in export markets (Blakeley et al., 2009). Moreover, reputation and legitimacy of the firm may be valued more in a small economy, like New Zealand, and hence prestigious MDS on the board can serve as a prerequisite for developing relationships with key resource providers. Finally, management of New Zealand firms is likely to benefit from expert advising of directors serving on the boards of other prestigious firms to cope with the complex needs of international markets. This suggests that prestigious MDS are better suited to meet these needs of expertise and linkages to key stakeholders, and appointing them can be one of the key strategies of New Zealand firms in obtaining preferential access to critical resources. Hence, prestigious MDS help firms to survive in export markets, leading to better performance.

In contrast, MDS of non-prestigious (non-listed or family) firms in New Zealand are less likely to help in developing strong business relationships. This suggests that non-

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<sup>14</sup> According to McCann (2003), a ‘social network model’ which focuses on ‘interpersonal connectedness’ may well fit better with the characteristics of the New Zealand economy.

prestigious MDS may not be able to meet the increased demand for networking of export-oriented New Zealand firms.

#### **7.4.1.2 Agency Theory and Performance**

From an Agency Theory perspective, a higher number of prestigious MDS means that the board as a whole has a greater supply of alternative viewpoints on current governance and strategic issues and working knowledge regarding how other prestigious firms deal with similar problems and issues. In addition, prestigious directors are likely to have high-quality monitoring skills, which are built upon monitoring experience at other prestigious firms. Thus, they may facilitate effective evaluation of management proposals and be better able to mitigate agency problems.

Moreover, prestigious directors are likely to perform monitoring responsibilities with due care to protect their professional reputation, thus are motivated to serve the best interests of the organization. This means that prestigious directors are unlikely to approve activities that may result in reputational damage (Ferris et al., 2016). This suggests that higher representation of prestigious MDS can achieve improvement in board monitoring, hence less agency costs and potentially better performance.

On the other hand, knowledge, experience, and information of board members derived from non-prestigious directorships (family and non-listed firms) are likely to be more firm-specific and not be useful to other firms (Forbes & Milliken, 1999; Gabrielsson & Winlund, 2000). That is, the benefits that board members obtained from non-prestigious firms may not offset the associated costs that accompany a practice of having multiple directors. Non-prestigious MDS, therefore, are likely to increase the busyness of the board instead of

adding valuable experience and useful information, hence can be associated with higher agency costs and lower firm performance.

New Zealand companies, therefore, are likely to obtain the benefit of effective monitoring from directors with prestigious experience. In particular, prestigious directors in New Zealand are likely to be more concerned to protect their professional reputation. The transparent nature of the managerial supply market of New Zealand suggests that this ‘reputational effect’ may be stronger (Brown & Roberts, 2016). It may be easier to spread information regarding professional negligence in a smaller population where individuals are mostly familiar to each other. In such an environment, prestigious directors are likely to be penalized severely for any reputational damage, hence are motivated to evaluate managerial performance with due care, leading to fewer agency conflicts among New Zealand firms and better performance.

The findings indicate a higher presence of non-prestigious MDS relative to prestigious MDS among New Zealand firms. However, the monitoring benefits from non-prestigious directorships seem to be minimal. This suggests that boards with more non-prestigious MDS may not be as effective in monitoring management performance, leading to higher agency costs and lower firm performance.

#### **7.4.1.3 Managerial Hegemony and Performance**

Prestigious directors are expected to be more knowledgeable as a result of their board level experience in other prestigious firms. Hence, they can review management proposals without relying solely on the information provided by management. In addition, these high-profile directors are motivated to work in the best interest of the organization because of the aggravated cost of reputation loss. Moreover, prestigious directors have more opportunity for

new jobs as being well-connected, hence are likely to be authoritative and less dominated by management (Ferris et al., 2016; Gupta et al., 2008). Prestigious directors, therefore, tend to lead board-level decisions, and hence CEOs are unlikely to have opportunities to divert the outcomes to serve their interests. This suggests that prestigious directors may be effective in reducing CEO influence on board-level decision making, which in part may help minimize agency conflicts, which may result in better firm performance.

On the other hand, experience and information derived from non-prestigious MDS are less likely to contribute to board monitoring and, hence the outcomes of board-level decisions tend to serve the interests of management instead of the organization (shareholders). This suggests that non-prestigious MDS may be ineffective in minimizing CEO influence, which may result in more agency conflicts and have negative consequences on firm performance.

In New Zealand, because of the shortage of expert directors, the demand for directors having prestigious experience is very high; hence, they are unlikely to be compliant directors. They will be less inclined to compromise their professional responsibilities for the benefits associated with MDS, such as compensation, prestige, and status to avoid reputational damage. This suggests that CEOs may not be able to influence board-level decisions in the presence of prestigious directors. This may lead to a lower level of agency costs and a positive impact on firm performance.

Despite the higher number of non-prestigious MDS on New Zealand boards, they are negatively associated with firm performance. It appears that they may be co-opted by the management and are likely to support management's proposals and decisions. Hence, non-prestigious MDS are unlikely to minimize conflicts of interest between management and shareholders. This may have a negative effect on corporate performance.

Taken together, these results are particularly important in New Zealand, which is considered as less well connected to the main global economic players. The positive impact of prestigious MDS compared to non-prestigious MDS indicates the premium ability of prestigious directors to bring valuable expertise and useful networks to their firms. Hence, prestigious MDS are likely to be selected, and may have been able to play an important value-enhancing role in monitoring and providing resources to the firm as well as minimizing managerial influence, which in turn could be associated with better performance. Overall, this study provides strong evidence that ‘prestige’ related differences exist between MDS, which suggests that prestigious MDS create value for New Zealand firms.

#### **7.4.2 Theoretically-informed Determinant of MDS**

The second part of this thesis investigates theoretically-informed firm-specific characteristics that explain the differences between prestigious MDS and non-prestigious MDS on a given board. This section discusses the findings regarding the determinants of the two categories of MDS in terms of three theories, namely, Resource Dependence, Agency and Managerial Hegemony.

##### **7.4.2.1 Resource Dependence Determinants**

Firstly, the empirical results demonstrate that larger firms tend to have more prestigious MDS on the board. This is consistent with the general perception that larger firms can simply attract and/or retain prestigious directors. From the perspective of Resource Dependence theory, larger firms may have higher numbers of prestigious directors to support their complex and diversified activities.

Since larger firms operate in a wider contracting environment and require frequent negotiation with diverse external groups (Booth & Deli, 1996; Ferris et al., 2003; Gupta et al.,



2008), they may need more prestigious directors to simplify negotiations. In addition, larger firms may need a greater range of critical resources to support their extended activities (Kiel & Nicholson, 2003). Hence, larger firms tend to have more directors with prestigious MDS, since they can link the firm to critical interdependence that could help advantageous access to critical resources. Moreover, the better advising ability of prestigious directors may be desirable to larger firms.

Secondly, the results indicate that the number or proportion of prestigious MDS increases with the firm's growing trend. This suggests that growing firms are likely to face a higher level of resource scarcity to pursue new growth opportunities, requiring more advantageous contracting relations. In addition, growing firms require expert advising, enhanced legitimacy and access to timely information regarding market and industry preferences to maintain and promote growth, which generally results in the need for more knowledgeable directors with prestige and connectivity in professions and communities. These needs of growing firms tend to be associated with an increased number of prestigious MDS on the board.

On the other hand, the findings also reveal that the number or proportion of non-prestigious MDS decreases with firm size, while there is no significant association between growth opportunity and non-prestigious MDS. Since non-prestigious MDS bring limited benefits to the firm, they are likely to be inadequate compared to prestigious MDS to support the increased needs of larger or growing firms, hence the lower likelihood of non-prestigious MDS in the larger firms.

Taken together, the above discussion suggests that prestigious MDS relative to non-prestigious MDS are at least seen as better able to provide the benefits of the easier acquisition

of critical resources and reduced uncertainty. This may be one of the reasons for ‘performance’ differences between prestigious and non-prestigious MDS. These findings are consistent with the evidence obtained by Ferris et al. (2016), who suggest that firms with important growth potential as well as complex needs are likely to benefit from external connectivity and hence are willing to appoint well-connected directors with higher compensation.

The empirical evidence is significant for the export-oriented New Zealand economy. Prestigious MDS potentially facilitate access to resource networks as well as allow various important forms of communication to occur across as well as beyond the borders of the firm that might not otherwise exist in a small and isolated economy. Thus, prestigious MDS in larger and growing firms in New Zealand may be seen as the means of diminishing uncertainty in accessing resources and reducing transaction costs, and ultimately help in the survival of the firm.

#### **7.4.2.2 Agency Theory Determinants**

Firstly, the results show that highly leveraged firms tend to have fewer prestigious MDS on the board, supporting the prediction of Agency theory (Hypothesis 5). Based on Agency theory, it implies that leverage and prestigious MDS may be viewed as substitute mechanisms for controlling agency conflicts, and hence directors with prestigious experience may be in less demand in firms with a higher level of leverage, which is consistent with the findings of Bathala and Rao (1995). This implies that appointing prestigious directors may impose unnecessary costs on those firms that are already less subject to agency conflicts.

On the other hand, the prior literature suggests that although an increase in debt may lead to a reduction in agency costs (Agrawal & Knoeber, 1996; Jensen, 1986), excessive leverage may cause an increase in agency costs related to failure risks (Jensen & Meckling,

1976). This indicates that the relationship between leverage and agency costs tends to be non-linear. Consequently, prestigious directors may not be willing to serve on the boards of highly leveraged firms in order to avoid negative reputational effects. Prior studies find empirical evidence that directors experience reputational damage when serving on the boards of financially distressed firms (Gilson, 1990).

Both explanations of Agency theory regarding the negative relationship between leverage and prestigious firms seem to be applicable in the context of New Zealand firms. Prior studies argue that New Zealand firms are likely to have concentrated ownership, which may result in a lower level of agency conflicts (Fox et al., 2012; Hossain et al., 2001; Roudaki & Bhuiyan, 2015). This suggests that there is less need for expert monitors, such as prestigious directors in firms with an increased level of debt. Hence, a lower likelihood of prestigious MDS is observed in highly leveraged New Zealand firms.

Alternatively, New Zealand firms tend to use more debt to compete aggressively in export markets, which is likely to increase the chance of failure leading to bankruptcy costs (Smith, 2011). This suggests that prestigious directors may be less interested in directorships of companies having higher default risk and companies that are likely to affect their reputation adversely. Hence, highly levered firms might not be able to attract prestigious MDS onto the board.

Secondly, the results of this study confirm Hypothesis 6 to show that the number or proportion of prestigious MDS on the board is negatively associated with the level of free cash flow (FCF). This suggests that the FCF of the firm is likely to be allocated efficiently in the presence of a higher number or proportion of prestigious MDS. These findings are consistent

with the evidence obtained by Bhuiyan, Uddin, Roudaki, and Clark (2013) that a lower level of free cash flow occurs in conjunction with better board monitoring.

According to Agency theory, a higher number of prestigious MDS allow firms to get access to crucial information required for optimal decision-making. Moreover, prestigious directors are better able (as well as more motivated) to perform monitoring responsibilities effectively. This suggests that boards having a higher representation of prestigious MDS are better able to question, assess and evaluate management proposals, which may result in optimal investment decisions with consequently a lower level of FCF.

Given the limited pool of expert directors, prestigious directors are of high importance to New Zealand companies, since they bring experience in monitoring techniques used and implementation challenges encountered by other prestigious organizations that could be useful to mitigate agency conflicts. Moreover, prestigious directors may feel more compelled to provide premium monitoring services in a transparent market for directorships, such as the New Zealand market, to avoid aggravated cost of reputational damage (Brown & Roberts, 2016). This suggests that an increased number of prestigious MDS on the board may be associated with a lower level of agency cost of free cash flow.

#### **7.4.2.3 Managerial Hegemony Determinants**

Firstly, the findings of this study support the prediction of Managerial Hegemony theory that firms tend to have fewer prestigious MDS on the board when the CEO has held their position for a longer time. These findings are consistent with the arguments of Hermalin and Weisbach (1998) that the number of directors who are inclined to closely monitor management decreases with CEO power. This is also consistent with the empirical evidence of

Boone et al. (2007) and Linck et al. (2008), who find a negative association between CEO tenure and the level of board monitoring.

From the Managerial Hegemony perspective, prestigious directors can compare the different strategic and governance issues with similar or related phenomena in light of their information and experience from other prestigious firms. In addition, prestigious directors are less likely to be compliant directors as professional reputation matters for them. Consequently, proposals initiated by management are more likely to be reviewed and evaluated in the presence of more prestigious directors on the board. Hence, CEOs are unlikely to influence board-level decisions in the presence of more prestigious MDS on the board. This suggests that CEOs who have held their position for longer may prefer a board with a lower level of monitoring in which they can exercise their power to influence the key decisions of the firm. Thus, firms with powerful CEOs tend to have fewer prestigious MDS on the board.

On the other hand, there is no significant association between non-prestigious MDS and CEO tenure, which is occasionally negative in several sensitivity analyses. This suggests that directors with multiple board experience (irrespective of the type) are thought to have the ability to minimize CEO influence on the board, and hence firms may have fewer MDS (both categories) in the presence of CEOs with longer tenure.

Secondly, this study does not find any association between CEO director and either of these two categories of MDS. Prior research suggests that board membership enhances CEO power by increasing authority and respect within their firms, as well as signalling their reputation in the profession and community (Li, 2013), hence could influence the board's monitoring ability. However, it appears from the results of this study that CEO director as a

proxy for CEO power may be insufficient to explain the differences between prestigious and non-prestigious MDS on the board.

From the perspective of New Zealand, it appears that MHT does provide explanations for the differences between two categories of MDS, but these are weaker than the other rationales. Perhaps, cultural and institutional reasons in New Zealand might have a part in explaining these results. The empirical evidence of this study indicates that the incidence of prestigious MDS is primarily driven by firms' needs for critical resources. Thus, CEOs with longer tenure seem to influence MDS choices. However, a CEO as a board member may be more concerned to find ways to minimize uncertainties in accessing critical resources instead of exercising influence on the choices between prestigious and non-prestigious MDS.

Overall, this study provides evidence regarding what explains the 'performance' differences between prestigious and non-prestigious MDS. The differences between prestigious MDS and non-prestigious MDS are observed in terms of theoretical explanations around easier acquisition of critical resources as well as minimizing agency problems and CEO influence.

Thus, the choice between the two categories of MDS may be associated with both monitoring and resource needs of the firm. In addition, powerful CEOs occasionally tend to influence this choice. However, non-prestigious MDS are not found to be associated with any of the variables of interest except firm size, suggesting that non-prestigious MDS might not be driven by the firm's needs to improve any aspect of their performance.

The findings suggest that all three theories have some explanatory power with respect to the differences between prestigious MDS and non-prestigious MDS. In particular, the findings highlight the significant explanatory power of Resource Dependence theory, as the

results remain unchanged throughout the tests, while Managerial Hegemony theory appears to have only partial explanatory power.

This result is particularly noteworthy in the New Zealand corporate environment. That is, export-oriented New Zealand firms potentially appoint prestigious directors as a means of bringing valuable expertise and potential networks to minimize uncertainties in accessing critical resources. On the other hand, New Zealand firms are less subject to agency conflicts because of concentrated ownership. In addition, CEO influence on ‘director selection’ may be less applicable in New Zealand because of the shortage of expert directors. Therefore, Agency theory and Managerial Hegemony explanations may be partially applicable to New Zealand firms’ choice between prestigious and non-prestigious multiple directorships.

## **7.5 Research Contributions**

The empirical findings presented in this thesis contribute to the academic literature in several ways.

This research extends the literature on MDS by examining whether ‘performance’ differences exist between MDS, categorizing them into two groups: prestigious MDS and non-prestigious MDS using the New Zealand setting. The empirical results show that prestigious MDS relative to non-prestigious MDS have a positive influence on performance outcomes (both current and future) for their organizations. Furthermore, this study finds that the distinctions between these two categories of MDS are explainable by firms’ needs for easier acquisition of critical resources, which are often associated with the level of agency conflicts and the presence of powerful CEOs. The empirical findings inform the current debate regarding which type of MDS could be value enhancing and potential explanations for the differences between MDS. This suggests that investigating MDS categories could be worthwhile.

Secondly, while prior studies are mostly based on US firms with a few from the context of other larger countries, such as the UK and Australia, this study extends the literature to the context of a small economy, where the incidence of MDS is potentially driven by the unique institutional environment. The empirical findings reveal that the incidence and pattern of MDS among New Zealand firms is different from that of other developed countries. The findings support the argument of McCann (2003) regarding the applicability of the ‘social network’ model in New Zealand, given its unique characteristics, such as small-scale population and geographic-isolation. Multiple directorships have the potential to develop trusted networks that help access to a greater range of resources, which is particularly significant for export-oriented New Zealand firms.

Thirdly, in terms of data, the empirical evidence of this study is based on a unique dataset that has been collected manually from companies listed on the New Zealand Stock Exchange comprised of observations over a ten-year period spanning 2005 to 2014. This provides the most comprehensive pattern of MDS, firm and governance characteristics of New Zealand listed companies over time. Moreover, the measures for MDS are constructed using hand-collected data by identifying the ‘relative prestige’ of appointing organizations on which the director serves, which is also unique because prior studies simply count the number or proportion of MDS.

Fourthly, in terms of methodology, this study has conducted a set of diagnostic and consistency tests in order to check the validity of the results. These include approaches to address unobserved heterogeneity, omitted variable bias, endogeneity and reverse causality. For example, the observations are clustered by both panels (firm and time) to account for unobserved serial and cross-sectional correlation, respectively, (if any) in residuals (Petersen, 2009). The concern for reverse causality is addressed by using the instrumental variables (IV)



method and a firm fixed effect method is used to address the concern for omitted variable bias, which have not been performed in prior New Zealand studies on MDS.

Finally, this study fills a gap in the corporate governance literature by bringing together the issue of MDS and prestige or reputation of employing firms, which are separately highlighted in the prior literature. Examining these issues in the New Zealand context, it documents evidence for MDS studies and provides a starting point for the analysis of MDS categories. Although recent corporate governance guidelines of many countries suggest limiting the number of MDS, the findings of this thesis suggest that firms should focus on the relative benefits of different categories of MDS instead of the total numbers. The results, therefore, help to structure corporate MDS in a way that ensures effective board functioning.

## **7.6 Practical Implications**

The implications of this study for academic research, governance practice and public policy in detail are discussed in this section.

Firstly, the evidence herein may have implications for firms' director selection strategy. These findings indicate that prestigious directors are likely to make contributions to those firms experiencing an increased need for critical resources or a higher level of agency conflicts. However, appointing highly connected and more knowledgeable directors may impose unnecessary costs on firms having routine needs for resources or less subject to agency conflicts. The findings, therefore, suggest that directorship choices of firms may be made according to their need for specific skills of directors; otherwise, MDS structures will be sub-optimal.

Secondly, the findings may have important policy implications, particularly for smaller economies. Although some studies have raised serious concerns regarding the contribution of

multiple (busy) directors on effective board functioning, the findings of this study suggest that some of them (prestigious directors) create value for New Zealand firms. Given the shortage of qualified directors, it is worthwhile keeping them on the boards of New Zealand companies to meet their complex needs to survive in export markets. Thus, policy makers need to think cautiously about these issues before placing restrictions on the number of directorships held by an individual director in New Zealand. This is because adapting uniform rules or guidelines for board governance of other developed countries might not be applicable to the unique competitive environment of this country.

Finally, directors' fees in New Zealand continue to be significantly lower than those paid in other developed economies, even in Australia (Lin, 2016). The opportunity to serve on multiple boards could compensate for the lower fees of New Zealand directors. The concentrated pattern of MDS in New Zealand listed companies among a small number of influential and well-connected directors implies that multiple directors have specialized expertise that is needed by New Zealand firms. Regulators, therefore, should be mindful of the need to retain expert directors and think carefully before initiating any new regulation regarding MDS.

## **7.7 Scope and Limitations**

This research has limitations related to scope, context, theory and sample selection and variable measurement techniques. These are as follows:

First, the scope of this study is limited to all publicly listed companies on the New Zealand Stock Exchange (NZX) with financial reporting periods ending between 1 January 2005 and 31 December 2014, and the data is collected manually from annual reports that are

extracted from the NZX Data Company Research. Therefore, any company added or removed from this database after 31 December 2014 is not included in this study.

Second, the final sample selected for this study is limited to observations with required information regarding multiple directorships which is disclosed by the firm in the annual report either under 'shareholder information' section or in the 'profiles' of directors. Thus, the data might suffer from sample selection bias. However, the sample includes firms of different age (mature firms, discontinued (delisted) firms and newly started firms), industry (all six industry categories including Finance) and stock exchange (both NZX Main board and NZAX firms) categories, which may minimize any potential selection bias.

Third, the research framework of this study is developed adopting three governance theories (RDT, AT and MHT) as a basis for the relationships central to the study as well as applicability to the operating settings. Thus, hypotheses developed and findings discussed are limited to the perspectives of these three theories. The choice between categories of MDS may be explained by other governance theories, such as Stakeholder Theory and Stewardship Theory. The reasons for their exclusion were discussed in Section 4.4.

Fourth, this study follows a firm-based approach rather than a person-based approach. Consequently, the number of MDS is determined at board level rather than at individual level. Therefore, this study provides statistics of the actual numbers of MDS per board, however no actual number, only the average number of MDS per director.

Fifth, this study uses a simple measurement technique to categorize MDS into two groups (prestigious MDS and non-prestigious MDS) according to their relative 'prestige'. Relative 'prestige' of MDS is determined by recognizing a set of characteristics of appointing firms such as listing status, ownership type, country of origin, reputation and industry

affiliation. Prior studies consider ‘firm size’ (market capitalization) as one of the indicators of the ‘prestige’ of directorships (Booth & Deli, 1996; Ferris et al., 2003; Gupta et al., 2008; Masulis & Mobbs, 2011, 2014). However, because of the unavailability of financial data of appointing firms of MDS, ‘firm size’ is not included as an indicator of ‘prestige’ in this study.

Finally, the empirical findings of my thesis are based on data from a specific context, New Zealand, which allows us to develop context-specific hypotheses. Focusing specific context, however, limits the generalizability of the findings to other empirical settings. Thus, inferences drawn from the findings of this study could be applicable primarily to similar-sized countries (such as Singapore and Switzerland).

## **7.8 Future Research Suggestions**

Future research addressing the limitations of this study could be conducted based on this thesis. Several suggestions are also made to expand and develop future research on MDS in the following sections.

This study indicates that investigating MDS categories could be worthwhile. Hence, future research could be undertaken to identify differences between MDS from alternative perspectives including other governance theories. That is, MDS can be categorized into more groups identifying suitable characteristics of appointing firms that justify the practice of MDS, such as supplier of raw material, major customer and influential shareholder.

This research is based on secondary data which does not allow observation of the process involved in board level dynamics and how prestigious and non-prestigious directors contribute to the decision making process. The proportion of women, Maori, Pacifica, and other ethnicities; the age pattern of directors; the educational qualifications of directors; the experience of directors may have voice in the board. Incorporating other data collection

techniques such as interviewing directors or other corporate persons would enrich our knowledge regarding the contributions of different categories of directors to the board level decision making process. Future research could be undertaken employing or adding alternative data collection techniques.

The empirical findings of my thesis are based on data from a specific context, New Zealand. Comparative studies would be more informative and may reveal the detailed patterns of MDS in two or more contexts. Future research could extend and apply this research to other contexts and/or to compare the incidence of MDS and its implications for different institutional environments.

Finally, this research examines the implications of MDS with respect to firm performance only. I acknowledge that firm performance does not fully reflect the effects of MDS. Future research could be undertaken to investigate the implications of MDS employing alternative measures of firm outcomes.

## **7.9 Conclusion**

The question of whether or how multiple directorships (MDS) influence business has received growing attention in the literature. A significant body of literature thus examines whether multiple directors as a whole are beneficial or detrimental for an organization and these studies draw quite diverse conclusions, with no clear consensus. However, there may be distinctions within the category of ‘multiple directorships’ that have only begun to be questioned or explored. This suggests a gap in the literature requiring further investigation to seek out new understandings of these distinctions in the hope of offering more nuanced understandings of multiple directorship contributions.

This study aims to explore theoretically-informed potential explanations for the differences between two categories of multiple directorships (MDS): prestigious MDS and non-prestigious MDS. The first effort made, therefore, is to determine whether prestigious MDS bring an improved performance outcome to their organizations. The empirical findings of the first part demonstrate that prestigious MDS relative to non-prestigious MDS bring better performance outcomes to their organizations, suggesting that the ‘prestige’ of MDS matters.

Having determined the apparent value of prestigious MDS, the second part of this thesis examines whether such distinctions are worth exploring further from the perspectives of three governance theories Resource Dependence, Agency and Managerial Hegemony. The results indicate that firms’ choices between prestigious and non-prestigious MDS are primarily associated with their needs for critical resources. These findings also reveal that the number or proportion of prestigious MDS on a board is often associated with the level of agency conflicts and the presence of powerful CEOs.

Empirical findings suggest that firms that seek to enhance benefits from MDS should consider the relative ‘prestige’ of MDS instead of simply adding more multiple directors to their boards. This is because the relative ‘prestige’ of MDS is likely to influence the associated benefits and costs. The overall results of this study provide indications as to whether some MDS are more beneficial than others. Improving the effectiveness of multiple directorships involves promoting appropriate types and well-matched combinations of relevant MDS on the board. This suggests that directorship choices of firms may be made according to their need for specific skills of directors; otherwise, MDS structures will be sub-optimal.

The findings of this study would bear important implications for regulators in New Zealand, for instance, Financial Markets Authority and Institute of Directors regarding the

motivations behind, or effects of, the presence of different categories of MDS on boards. Given the shortage of qualified directors, it is worthwhile keeping them on the boards of New Zealand companies to meet their complex needs to survive in export markets. Thus, policy makers need to think cautiously about these issues before placing restrictions on the number of directorships held by an individual director in New Zealand.

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## Appendix A List of Companies and Number of Observations included in the Sample

Company Name:	NZX Code	Industry	Year of listing	Year of Delisting	Number of observations included
A2 MILK COMPANY LTD (THE)	ATM	Primary	2004	NA	10
ABANO HEALTHCARE GROUP LTD	ABA	Service-NF	1962	NA	10
ACURITY HEALTH GROUP LTD	ACY	Service-NF	2001	2015	10
AFFCO HOLDINGS LTD	AFF	Primary	1989	2009	5
AIR NEW ZEALAND LTD	AIR	Service-NF	1989	NA	10
ALLIED FARMERS LTD	ALF	Investment	2002	NA	10
AMP LTD	AMP	Service-F	1998	NA	10
ANZ BANKING GROUP LTD	ANZ	Bank	1988	NA	10
ARGOSY PROPERTY LTD	ARG	Property	2002	NA	10
AUCKLAND INTL AIRPORT LTD	AIA	Service-NF	1998	NA	10
AUGUSTA CAPITAL LTD	AUG	Property	2006	NA	8
AWF MADISON GROUP LTD	AWF	Service-NF	2005	NA	9
BARRAMUNDI LTD	BRM	Investment	2006	NA	8
BRISCOE GROUP LTD	BGR	Service-NF	2001	NA	10
BURGER FUEL WORLDWIDE LTD	BFW	Goods	2007	NA	7
CANTERBURY BUILDING SOCIETY	CBS	Service-F	2004	2010	6
CAVALIER CORP LTD	CAV	Goods	1984	NA	10
CDL INVESTMENTS NZ LTD	CDI	Property	1986	NA	10
CHARLIE'S GROUP LTD	CHA	Goods	1986	2010	6
CHORUS LTD	CNU	Service-NF	2011	NA	3
COATS GROUP PLC	COA	Goods	1991	2016	10
COLONIAL MOTOR CO LTD	CMO	Service-NF	1962	NA	10
COMVITA LTD	CVT	Service-NF	2003	NA	9
CONTACT ENERGY LTD	CEN	Energy	1999	NA	10
COOKS FOOD GROUP LTD	CGF	Investment	2008	NA	6
DELEGAT GROUP LIMITED	DGL	Goods	2004	NA	10
DILIGENT CORPORATION	DIL	Service-NF	2007	2016	7
DNZ (STRIDE) PROPERTY TRUST	STR	Investment	2010	2016	5
TURNERS (DORCHESTER) LTD.	TNR	Service-F	1985	NA	10
EBOS GROUP LTD	EBO	Goods	1960	NA	10
ENERGY MAD LTD	MAD	Service-NF	2011	NA	3
FINZSOFT SOLUTIONS LTD	FIN	Investment	2000	NA	10
FISHER & PAYKEL APPLIANCES	FPA	Goods	2002	2012	8
FISHER & PAYKEL HEALTHCARE	FPH	Goods	1979	NA	10
FLETCHER BUILDING LTD	FBU	Primary	2001	NA	10
FOLEY FAMILY WINES LTD	FFW	Goods	2003	NA	10
FONTERRA CO-OPERATIVE GRP	FCG	Primary	2001	NA	10
FREIGHTWAYS LTD	FRE	Service-NF	2003	NA	10

Company Name:	NZX Code	Industry	Year of listing	Year of Delisting	Number of observations included
GENESIS RESEARCH & DEVELOPMT	GEN	Investment	1996	2011	7
GOODMAN FIELDER LTD	GFF	Goods	2005	NA	9
GOODMAN PROPERTY TRUST	GMT	Property	1999	NA	10
GREEN CROSS HEALTH LTD	GXH	Service-NF	2000	NA	10
HALLENSTEIN GLASSON HOLDINGS	HLG	Service-NF	1947	NA	3
HEARTLAND NZ LTD	HNZ	Bank	2011	NA	4
HELLABY HOLDINGS LTD	HBV	Investment	1994	2017	10
HORIZON ENERGY DISTRIBUTION	HED	Energy	1995	2015	10
INFRATIL LTD	IFT	Investment	1994	NA	10
KATHMANDU HLDGS LTD	KMD	Goods	2009	NA	5
KINGFISH LTD	KFL	Investment	2004	NA	10
KIRKCALDIE & STAINS	KRK	Service-NF	2001	2016	10
KIWI INCOME PROPERTY TRUST	KPG	Property	1993	NA	10
LYTTLETON PORT CO LTD	LPC	Service-NF	1996	2014	10
MAINFREIGHT LTD	MFT	Service-NF	1996	NA	10
MARLIN GLOBAL LTD	MLN	Investment	2007	NA	7
MARSDEN MARITIME HOLDINGS	MMH	Service-NF	1992	NA	10
MERCER GROUP LTD	MGL	Goods	1959	NA	10
MERIDIAN ENERGY LTD	MEL	Energy	2010	NA	5
METHVEN LTD	MVN	Goods	2004	NA	10
METLIFECARE LTD	MET	Service-NF	1994	NA	10
MICHAEL HILL INTL LTD	MHI	Service-NF	1987	NA	10
MIGHTY RIVER POWER LTD	MRP	Energy	2010	NA	4
MILLENNIUM COPTHORNE HOTELS	MCKPA	Service-NF	1985	NA	9
MOA GROUPLTD	MOA	Goods	2012	NA	2
MOWBRAY (Bethunes) COLLECTABLES LTD	BIL	Service-F	2000	NA	10
NEW TALISMAN GOLD MINES LTD	NTL	Primary	1986	NA	10
NEW ZEALAND OIL & GAS LTD	NZO	Primary	1981	NA	10
NEW ZEALAND REFINING CO LTD	NZR	Energy	1962	NA	10
NPT LTD	NPT	Property	1995	NA	10
NUPLEX INDUSTRIES LTD	NPX	Primary	1967	NA	10
NZX LTD	NZX	Service-F	2003	NA	10
OPUS INTL CONSULTANTS LTD	OIC	Service-NF	2007	NA	8
PGG WRIGHTSON LTD	PGW	Primary	1982	NA	10
PORT OF TAURANGA LTD	POT	Service-NF	1992	NA	10
PRECINCT PROPERTIES NZ LTD	PCT	Property	1997	NA	10
PROMISIA INTEGRATIVE LTD	PIL	Service-NF	1983	NA	10
PROPERTY FOR INDUSTRY LTD	PFI	Property	1994	NA	10
PULSE ENERGY LTD	PLE	Energy	2007	NA	7
PUMPKIN PATCH LTD	PPL	Service-NF	2004	NA	10
PYNE GOULD CORP. LTD	PGC	Service-F	2004	NA	10



Company Name:	NZX Code	Industry	Year of listing	Year of Delisting	Number of observations included
RAKON LTD	RAK	Goods	2006	NA	9
RESTAURANT BRANDS NZ LTD	RBD	Service-NF	1997	NA	10
RUBICON LTD	RBC	Investment	2001	NA	10
RYMAN HEALTHCARE LTD	RYM	Service-NF	1999	NA	10
SANFORD LTD	SAN	Primary	1960	NA	10
SCOTT TECHNOLOGY LTD	SCT	Goods	1997	NA	10
SEEKA KIWIFRUIT IND LTD	SEK	Primary	2003	NA	5
SKELLERUP HOLDINGS LTD	SKL	Goods	2002	NA	10
SKY NETWORK TELEVISION LTD	SKT	Service-NF	2005	NA	10
SKYCITY ENTERTAINMENT GROUP	SKC	Service-NF	1995	NA	10
SMARTPAY HOLDINGS LTD	SPY	Goods	1987	NA	8
SMITHS CITY GROUP LTD	SCY	Service-NF	2003	NA	10
SOUTH PORT NZ	SPN	Service-NF	1994	NA	10
SOUTHERN TRAVEL HOLDINGS	STH	Service-NF	2005	2012	8
SPARK NEW ZEALAND LTD	SPK	Service-NF	1991	NA	10
SPEIRS GROUP	SGL	Service-NF	2003	NA	6
STEEL & TUBE HOLDINGS LTD	STU	Primary	1967	NA	10
SUMMERSET GROUP HLDGS LTD	SUM	Service-NF	2011	NA	4
TEAMTALK LTD	TTK	Service-NF	2004	NA	10
TELSTRA CORP. LTD	TLS	Service-NF	1997	NA	10
TENON LTD	TEN	Primary	1996	NA	10
WAREHOUSE GROUP LTD	WHS	Service-NF	1994	NA	10
TOURISM HOLDINGS LTD	THL	Service-NF	1986	NA	10
TOWER LIMITED	TWR	Service-F	1999	NA	10
TRADE ME GROUP LTD	TME	Service-NF	2011	NA	10
TRILOGY INTERNATIONAL LTD	TIL	Service-NF	2010	NA	3
TRS INVESTMENTS LTD	TRS	Investment	2000	NA	5
TRUSTPOWER LTD	TPW	Energy	1994	NA	10
TURNERS & GROWERS LTD (T&G GLOBAL)	TGG	Primary	2004	NA	10
VECTOR LTD	VCT	Energy	2002	NA	10
VARITAS INVESTMENTS LTD	VIL	Investment	2004	NA	10
VETILOT LTD (AUS FOOD CORP.)	AFC	Investment	2006	NA	10
WELLINGTON DRIVE TECH	WDTPA	Goods	2001	NA	7
WESTPAC BANKING CORP. LTD	WBC	Bank	1992	NA	10
WINDFLOW TECHNOLOGY LTD	WTL	Energy	2003	NA	10
XERO LIMITED	XRO	Service-NF	2007	NA	10
ZINTEL GROUP LTD	ZIN	Service-NF	2004	2013	7
TOTAL NUMBER OF OBSERVATIONS					1022

## Appendix B List of Prior Studies on MDS

C-1	C- 2	C- 3	C- 4	C- 5	C- 6
Author/Year	Title	Aims/ Context	Method/ (ology)	Dependent Variables	Findings
Experience Perspective of MDS (Section 3.4.1)					
Tijani et al. (2015)	Multiple directorships and related parties transactions: The weakness of numbers	Effects of MDS on firms related parties transactions (Nigeria)	Two-step regression	Related parties transactions	MDS do not influence corporate related parties transactions.
Lei and Deng (2014)	Do Multiple Directorships Increase Firm Value? Evidence from Independent Directors in Hong Kong	Effects of MDS (of independent directors) on firm value (Hong Kong)	Linear regression	Market -to-book ratios and Tobin's Q	Positive association between MDS and firm value. Stronger under strict governance standards, while weaker when independent directors hold higher levels of MDS.
Tarkovska (2013)	Busy Boards, Corporate Liquidity and Financial Risk: Evidence from UK Panel Data.	Impact of multiple directorships on corporate liquidity and financial risk (UK)	Pooled OLS fixed effects regression Analysis and Fama-MacBeth Model	Cash, net cash and financial slack	MDS are associated with higher level of cash, net cash and financial slack that is a less risky position, however, MDS beyond a certain point produce inverse result.
Hashim and Rahman (2011)	Multiple board appointments: are directors effective?	Relationship between the presence of interlocked directors on a board and earnings quality. (Malaysia)	Linear multiple regression analysis	Standard deviation of accrual quality residuals	Presence of interlocked directors on board is associated with higher earnings quality
Masulis and Mobbs (2011)	Are all inside directors the same? Evidence from the external directorship market	Effect MDS (of inside directors) on performance of both firm and director (US)	Multivariate analysis -Two-stage least square, firm fixed effect regression and difference in difference methods	Operating cash flows, market-to-book ratio, cumulative abnormal return,	Inside directors who serve on multiple boards are associated with better firm performance.

				cash holdings and earnings restatement	
Sarkar and Sarkar (2009)	Multiple board appointments and firm performance in emerging economies: Evidence from India.	Effects of MDS on firm performance in an emerging economy (India)	Spline regression	Market –to-book ratios, Tobin’s Q, ROA and Net value added to assets	Firm performance is influenced positively by MDS of independent directors, while negatively by MDS of inside directors
Kiel and Nicholson (2006)	Multiple directorships and corporate performance in Australian listed companies	Effects of MDS on firm performance(Australia)	Descriptives Correlation Matrix	Risk adjusted shareholder return	MDS do not harm firm performance
Perry and Peyer (2005)	Board seat accumulation by executives: A shareholder's perspective	Effects of MDS of executives on firm (primary employer) performance (US)	Weighted least square regression	Sender firm’s cumulative abnormal return	MDS of executives is associated with increased firm value through positive announcement return when the executive’s firm has few agency concerns.
Harris and Shimizu (2004)	Too busy to serve? An examination of the influence of overboarded directors	Impact of multiple (overboarded) directors on key strategic decisions such as corporate acquisition (US)	Event study and regression analysis	Cumulative abnormal return (CAR)	Overboarded directors are associated with informed and enhanced acquisition performance.
Ferris et al. (2003)	Too busy to mind the business? Monitoring by directors with multiple board appointments	Effects of MDS on firm performance and directors’ professional responsibilities (US)	Multivariate (logistic) regression analysis	Market-to-book ratio	No significant relationship between MDS and firm performance
Carpenter and Westphal (2001)	The strategic context of external network ties: Examining the impact of director appointments on board involvement in strategic decision making	Effects of MDS on director's ability to contribute to organizational strategy (US)	Multiple Regression analysis (Questionnaire survey for data collection)	Directors' perceived ability to contribute to board discussions, board monitoring and board advice interactions	Experience from MDS positively influence director's ability to contribute to strategy.

Li and Ang (2000)	Quantity versus quality of directors' time: the effectiveness of directors and number of outside directorships	Effects of MDS on the performance of a merger target firm to determine directors' routine Vs special circumstances monitoring. (US)	Ordinary least squares regression Analysis	Target firms' past performance (three year holding period return) and merger premiums	MDS do not affect directors' performance in monitoring management. Quality of director's time is more important than its quantity for minoring management
Busyness Perspective of MDS (Section 3.4.2)					
Méndez et al. (2017)	Monitoring by Busy and Overlap Directors: An Examination of executive remuneration and financial reporting quality	Effects of MDS (busy directors) and multiple committee memberships (overlap directors) on the three board supervisory outcomes. (Spain)	Pooled-OLS , fixed effects and random effects regression	board executives' remuneration, audit opinion and earnings management	Positive effects of MDS, which are associated with low executives pay, and better quality financial information and lower possibility of receiving a qualified opinion
Hundal (2017)	Multiple directorships of corporate boards and firm performance in India	How the busyness of directors impacts firm performance (India)	Ordinary least squares regression Spline Regression	Tobin's Q, Market-to-book ratio, ROA and Net value added to assets ratio	The busyness of corporate directors adversely affects firm level performance
Méndez et al. (2015)	Monitoring capabilities of busy and overlap directors: Evidence from Australia	Effects of MDS (busy directors) and multiple committee memberships (overlap directors) on the four board supervisory outcomes. (Australia)	Pooled OLS Logit Two-stage simultaneous equation	CEO's remuneration, audit opinions, audit fees and the CEO turnover	Negative effects of MDS. Multiple directors are associated both with high CEO remuneration and with low pay-performance sensitivity, while overlap directors are associated better board supervisory outcomes.
Falato et al. (2014)	Distracted directors: Does board busyness hurt shareholder value?	Impact of independent directors busyness (because of MDS) on shareholder wealth (US)	Ordinary least squares regression and difference-in-difference methodology	Average Cumulative abnormal return	Negative stock market reaction to the increase in directors' busyness because of the death of CEOs and directors of interlocked firms.

Lu et al. (2013)	Busy boards and corporate performance	Effects of busy boards on corporate performance (China)	Regression analysis (both linear and non-linear)	Return on Assets (ROA)	MDS positively influence firm performance
Bar-Hava et al. (2013)	Busy directors are detrimental to corporate governance	the effects of busy directors' resignation on shareholder reaction (share price) (US)	Event study and Fama-MacBeth monthly methodology	cumulative abnormal return and firm's monthly returns over the next 12 months period	Positive reaction of investors on the news of their directors' resignation from other firms.
Cashman et al. (2012)	Going overboard? On busy directors and firm value	Impact of busy (multiple) directors on firm performance, with emphasis on reconciling the contradictory findings in the literature. (US)	Multivariate regression Firm Fixed effect regressions	Tobin's Q, ROA, return on sales and sales as percentage of assets	Negative association between the presence of busy directors and firm performance.
Ahn et al. (2010)	Multiple directorships and acquirer returns	Effects of MDS on acquirer' announcement return (US)	Multivariate regression	CAR of bidding firm and MDS of an individual director	Significant detrimental effect on acquirer's announcement return when MDS exceeds a certain threshold (non-linear).
Jiraporn et al. (2009a)	Too busy to show up? An analysis of directors' absences.	Effects of MDS on directors' board and committee meeting attendance (US)	Logistic regression analysis	Attendance of directors in the board/committee meeting	Individual director with multiple directorships is more likely to be absent from board meetings
Jiraporn et al. (2009b)	Ineffective corporate governance: Director busyness and board committee memberships	Effect of MDS on directors' performance effectiveness through examining the relation between board members busyness and their committee memberships.(US)	Two stage least square regression analysis	The average no. of committee (0-4) memberships per director across all firms	MDS are related to a reduced no of committee memberships, after a threshold a higher no. of MDS is associated with higher no. of committee memberships.

Jiraporn et al. (2008)	Multiple directorships and corporate diversification	Effect of MDS on firm diversification and firm value. (US)	Two stage and Fixed effects regression analysis	Firm value for diversified firms (excess value measure)	Inverse relation between MDS and excess value attributable to diversification
Fich and Shivdasani (2006)	Are busy boards effective monitors?	Effects of MDS (busy directors and busy boards) on firm performance (US)	Firm-fixed effect regression	Market-to- book ratio, ROA,, sales over assets and return on sales	Negative impact of MDS on corporate value, operating profitability and governance quality when a director and board become busy due to MDS.
Conditional Effects of MDS (Section 3.4.3)					
Chen et al. (2015)	Multiple directorships and the performance of mergers & acquisitions	the effects of directors busyness at the different level of MDS on firm performance (US)	Cross sectional regression	Cumulative Abnormal return M&A announcements	A horizontal S-shaped relation between MDS and firm performance: at low and high levels of MDS is negatively associated with firm performance, while the relationship is positive at moderate levels of MDS.
Lee and Lee (2014)	Are multiple directorships beneficial in East Asia	Effects MDS on firm performance and identification of firm and governance characteristics that influence this link (East Asia)	Three stage least square regression	Tobin's Q (market – to book-ratio), industry adjusted return of firm's common stock	MDs is positively associated with firms having high advising needs as well as external financing needs. Beneficial aspects of MDs is stronger in countries with weak stockholder rights and in firms that are widely held.
Clements et al. (2013)	The effect of multiple directorships on a board of directors' corporate governance effectiveness.	Effects of MDS on corporate governance effectiveness (US)	Simple linear Regression analysis	Number of Material Weakness in Internal Control	MDS positively influence CG effectiveness of large firms while detrimental for small firms.

Field et al. (2013)	Are busy boards detrimental?	Effects of MDS (busy boards) on performance of newly public firms (US)	Two-stage regression	Market –to-book ratios and Return on sales	Positive association between MDS and performance of newly public firms
Chakravarty et al. (2011)	Do Busy Boards Add Value to Standalone Firms relative to Business Groups? Evidence from India.	Whether busy boards add more value to standalone firms compared to business group affiliated firms. (India)	Fixed effects regressions	Market –to-book ratios and the number of directorships held by an outside director	MDS positively influence the performance of stand-alone firms relative to group affiliated firms
Chen (2009)	Growth Opportunities, Agency Conflicts, and the Effectiveness of Busy Outside Directors.	Effects of MDS on performance of firms having different needs of advising as well as monitoring	Fixed effects regression Two-stage Analysis	Tobin’s Q Operating Margin	MDS are positively associated with the performance of firms having high growth opportunities, while there is a negative association between multiple directorships and performance of firms experiencing a higher level of agency conflicts
Quality of MDS (Section 3.5)					
Loderer and Peyer (2002)	Board overlap, seat accumulation and share prices	Effects of board overlap firm value (Switzerland)	Multivariate regression	Tobin’s Q, ROA	Board overlap is associated with reduced firm value.
Clements et al. (2015a)	The impact of company size and multiple directorships on corporate governance effectiveness	The effects of MDS of larger of smaller firms on governance effectiveness (US)	Simple linear Regression analysis	Number of Material Weakness in Internal Control	Positive relationship between MDS experience of larger firms with corporate effectiveness and this effect is stronger for small companies than large companies.
Clements et al. (2015b)	Multiple directorships, industry relatedness, and corporate governance effectiveness	The relationship between industry relatedness of MDS and corporate governance effectiveness.	Simple linear Regression analysis	Number of Material Weakness in Internal Control	Positive correlation between the industry relatedness of MDS and corporate governance effectiveness

		(US)			
Studies examining the Determinants of MDS (Section 3.6)					
Booth and Deli (1996)	Factors affecting the number of outside directorships held by CEOs	Determinants of MDS of CEOs (US)	Tobit Regression	MDS of CEOs	CEO interlocks, CEO tenure and percentage of outsiders on the CEO's own board are positively related to MDS held by CEOs, while CEOs of growing firms tend to hold lower numbers of MDS
O'Sullivan (2009)	Why do CEOs hold non-executive directorships? An analysis of the role of governance and ownership	Determinants of MDS of CEOs (UK)	Logit and Poisson Analysis	MDS of CEOs	CEO duality, lower CEO ownerships and higher level of external ownership desperation is associated MDS of CEOs.
Ferris and Jagannathan (2001)	The incidence and determinants of multiple corporate directorships	Determinants of MDS of directors (US)	Linear regression	MDS on a given board	MDS are associated with firm size, board size, growth opportunities as well as firm performance
Imreorowa and Kollin (2013)	The Prevalence and Causes of Multiple Directorships	Determinants of MDS of the board (Sweden)	Simple and multivariate regression	MDS of an individual director as well as a given board	Firm size, age, board size and firm performance are positively associated with MDS, while, directors' tenure, and CEO directorship are negatively related to the number of MDS on a given board.
New Zealand studies on MDS (Section 3.7)					
Laurent (1971)	Interlocking Directorates in New Zealand	Extent and nature of interlocking directorate in New Zealand	Descriptives		The majority (65.5%) of directors are found to have more than one directorships. The mean number of



					directorships held by individual directors is 3.1
Fogelberg and Laurent (1973)	Interlocking directorates: a study of large companies in New Zealand	Extent and nature of interlocking directorates among large New Zealand Companies	Descriptives		The majority of the connectivity developed among the New Zealand corporations as a result of MDS are with competitors, suppliers, customers, and financial institutions.
Firth (1987)	Multiple directorships and corporate interlocks in New Zealand firms	Extent of MDS and corporate interlocks among NZ listed companies	Descriptives		In 1972, only 16% of directors served on multiple boards and by 1984, the figure increased to 19%.
Alexander et al. (1994)	Business power in Australia: The concentration of company directorship holding among the top 250 corporates	The concentration of MDS in the top 250 Australian and NZ companies	Descriptives		The proportions of directors holding more than one directorship are 21% and 16% for New Zealand in 1987 and 1990 respectively, compared to 20% and 12% for Australia in 1986 and 1991 respectively.
Roy et al. (1994)	Board size and potential corporate and director interlocks in Australasia 1984-1993	The degree of changes in MDS for all listed companies on the New Zealand Stock Exchange in the years 1987, 1990 and 1993	Descriptives Descriptives		The percentage of directors holding more than one directorship was 14.86% in 1993 compared with 18.90% and 20.59% in 1984 and 1987 respectively
Fox and Walker (1999) Fox and Walker (2001)	Multiple directorships and interlocks among New Zealand Stock Exchange Companies.	The incidence of MDS among NZ directors	Descriptives		In 1996 and 1999, 13.6% of total directors served on more than one board while in 2001 the figure increased to 17%.
Van Peurse and Purcell (2015)	Audit Risk from Multiple Directorships: A New Zealand Analysis	Possibility of audit risk driven by MDS and its	Descriptives		35% of multiple directors serve on the boards of the same industry, which increases

		implications for audit planning			the chances of 'related party' audit risk.
Roudaki and Bhuiyan (2015)	Interlocking Directorship in New Zealand	Determinants and consequences of interlocking directorships (IDS)	Linear Regression		IDS are negatively influence firm performance. Board size, independent directors, CEO interlocks and firm complexity are positively related to IDS, while concentrated ownership firms are less likely to have IDS.

## Appendix C Extract from Air New Zealand Annual Report 2014 Disclosure of MDS Information

The following are particulars of general disclosures of interests by directors of Air New Zealand Limited holding office at 30 June 2014, pursuant to Section 140(2) of the Companies Act 1993. Where applicable the disclosures also include directorships of subsidiaries of the relevant companies (p. 62-63).

### **Tony Carter (Chairman)**

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ANZ Bank New Zealand Ltd	Director
Blues LLP	Chairman – appointed 1 September 2013
Fisher & Paykel Healthcare Corporation Ltd	Chairman
Fletcher Building Ltd	Director
Foodstuffs Auckland Protection Trust	Trustee
Maurice Carter Charitable Trust	Trustee
New Zealand Initiative Ltd	Co-Chairman – resigned 14 March 2014

### **Jan Dawson**

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AIG Insurance New Zealand Limited	Director
Beca Group Limited	Director – appointed 20 December 2013
Counties Manukau District Health Board	Deputy Chair – retired 4 December 2013
Goodman Fielder Limited	Director
Jan Dawson Limited	Director
Meridian Energy Limited	Director
National Health Board Capital Investment Committee	Member
University of Auckland Council	Member
Voyager New Zealand Maritime Museum	Trustee
Westpac New Zealand Limited	Director
Yachting New Zealand	President – retired 19 October 2013

### **Paul Bingham**

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Akaroa Harbour Cruises Limited	Director
Black Cat Group 2007 Limited	Managing Director
Destination Christchurch & Canterbury NZ Trust	Trustee
Dolphin Experience Limited	Director
Lyttelton Harbour Cruises Limited	Director
Pajo Trust	Trustee
Shuttlerock Limited	Director

### **Dr Jim Fox**

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BIOTA Pharmaceuticals Inc (USA)	Chairman
Genmark Diagnostics Inc (USA)	Director
Multiple Sclerosis Research Australia Limited	Director
Director	
TTP Group (UK) Plc	Director
Paul Bingham	
Akaroa Harbour Cruises Ltd	Director
Black Cat Group 2007 Ltd	Managing Director
Destination Christchurch & Canterbury NZ Trust	Trustee
Dolphin Experience Ltd	Director
Lyttelton Harbour Cruises Limited	Director
Pajo Trust Trustee	Trustee
Shuttlerock Ltd	Director

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**Roger France**

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Dilworth Trust Board	Trustee
Fisher & Paykel Healthcare Corporation Limited	Director
Orion Corporation Limited	Director
Tappenden Management Limited	Director
The University of Auckland Council	Council Member – resigned 31 December 2013
The University of Auckland Foundation	Trustee
Treasury Commercial Operations Advisory Board	Member – appointed 26 June 2014

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**Rob Jager**

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Maui Development Limited	Director
Shell Energy Asia Limited	Director
Shell Exploration NZ Limited	Director
Shell Investments NZ Limited	Director
Shell New Zealand (2011) Limited	Director

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**Linda Jenkinson**

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LesConcierges Inc	Chair
Massey University US Foundation	Director
The Global Women Trust Advisory Board	Member
TheGrid	Director

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**Jonathan Mason**

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Beloit College (USA) Board of Trustees	Trustee
University of Auckland Endowment Fund	Trustee
Vector Limited	Director
Zespri Group Limited	Director

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