

Board of Directors and Corporate Performance in China

**by
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In Fulfilment of the Requirements
for the Degree of Doctor of Philosophy**

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DEDICATION

Dedication

for

Those who deserve my love most

To my parents,

my sister,

my wife,

and my baby daughter

with deepest respect and appreciation



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Abstract

The purpose of this study is to examine the relationship between board of directors (BoD) and corporate performance in China. In particular, it attempts to identify the effects of four attributes of BoD — board composition, characteristics of directors, board structure and board process — on the financial performance of Chinese listed companies.

A large number of empirical studies have examined the correlation between BoD and corporate performance. Few previous studies have examined the effects of BoD on both direct shareholder wealth and company financial performance. Moreover, little attention has been paid to this topic in a Chinese context.

Owing to special ownership structure of listed companies, agency problems have recently received more and more attention in China from the academics and policy makers. As noted by Qian (1995) and Firth et al. (2003), agency problems in China are potentially more serious than in the West. Therefore, this study mainly employs agency theory to examine the effects of the BoD on corporate performance. It is utilised, together with other theories, such as resource dependence theory, to develop testable hypotheses and discuss the results.

This study finds that there is relatively limited evidence that board independence has significantly positive impacts on corporate performance. In particular, it finds that there is non-linear relationship between board independence and firm performance. There is no negative relation between the proportion of affiliated directors on board and firm current or future performance. In addition, there is no significantly negative correlation between board size and firm current performance. In particular, there is no non-linear relationship between board size and corporate performance.

There is no confirmative evidence that stock ownership and cash compensation of independent directors have any positive effects on corporate financial performance. However, there is strong evidence that firm performance depends crucially on the interaction between the magnitude of cash compensation of independent directors and the size of them on board. Also there is no evidence that the incentives of independent directors have any curvilinear effects on current performance.

There is no evidence of significantly positive or negative correlation between age and primary occupation of independent directors and firm performance. However, I find that the presence of overseas independent directors has significantly positive impacts on corporate performance. Interestingly, there is a significantly negative correlation between the proportion of female independent directors and corporate performance.

There is no clear evidence that CEO duality has any negative impact on current financial performance, which rejects the hypothesis H5. Furthermore, there is a significantly negative relationship between multi-directorship and firm performance. In addition, there is limited evidence that auditing committee has a significantly positive impact on corporate performance.

There is no significantly positive correlation between the frequency of board meeting and firm financial performance. However, there is strong evidence that firm performance depends crucially on the interaction between the frequency of board meetings and the size of independent directors appointed. In particular, there is confirmative evidence that frequency of board meeting has curvilinear effect on firm performance.

There is no clear evidence that the proportion of directors appointed by government

agents control shareholders has a negative impact on corporate performance. However, there is a significantly negative correlation between the proportion of directors appointed by SOE control shareholders and company performance. Furthermore, the relationship between the proportion of directors appointed by SOE control shareholders and company performance is non-linear.

The dissertation makes several important contributions to the corporate governance literature. In addition, this study also has implications for policy makers insofar as it offers empirical evidence concerning effectiveness of Chinese BoD in improving financial performance of listed companies. The findings of this study can help the authorities to reform the corporate governance system.

TABLE OF CONTENTS

Declaration	
Acknowledgements	
Abstract	
Table of Contents	
List of Tables and Figures	

Chapter 1 Introduction	1
1.1 Introduction	1
1.2 Research Background and Motivations	3
1.3 Aims, Objectives and Research Questions	6
1.4 Theoretical Considerations and Methodologies	14
1.5 Structure of the Study	15
Chapter 2 Literature Review: Theories	18
2.1 Introduction	18
2.2 Legalistic Model	18
2.2 Resource Dependence Model	21
2.3 Class Hegemony Model	23
2.4 Stakeholders Model	25
2.5 Agency Theory Model	27
2.6 Brief Comparison of the Five Models	30
2.7 Summary	36
Chapter 3 Literature Review: Empirical Studies	37
3.1 Introduction	37
3.2 Board Composition and Corporate Performance	41
3.2.1 Board Size Effects	41
3.2.2 Outsiders V.S. Insiders: Effects on Corporate Performance	42
3.3 Board Characteristics and Corporate Performance	55
3.4 Board Structure and Corporate Performance	56
3.4.1 Sub-Committees	57
3.4.2 Board Leadership	58
3.5 Board Process and Corporate Performance	60
3.6 Incentives of Directors and Corporate Performance	61
3.7 Summary	63
Chapter 4 Institutional Background of China	66

4.1 Introduction.....	66
4.2 Brief Review of China's Economy Development.....	66
4.3 The Development of China Securities Market.....	67
4.4 Ownership Structure of Listed Companies.....	73
4.4.1 Non-tradable Share.....	75
4.4.2 Tradable Share.....	76
4.4.3 Ownership Structure Characteristics.....	76
4.5 Corporate Governance in China.....	81
4.5.1 Concentrated Ownership Structure and State Shareholder.....	81
4.5.2 The Shareholder Annual Meeting.....	82
4.5.3 The Board of Directors and Independent Directors.....	84
4.5.4 The Supervisory Board.....	86
4.5.5 Managers.....	87
4.6 Principal-Agent Problems in China.....	89
4.6.1 Who Is Principal.....	89
4.6.2 Who Is Agent.....	92
4.6.3 Active Principal and Passive Agent Model: Problems of Large Shareholders Expropriation.....	94
4.6.4 Active Agent and Passive Principal Model: Problems of Insiders Control.....	96
4.7 Summary.....	100

Chapter 5 Testable Hypotheses and Variables Measurement.....101

5.1 Introduction.....	101
5.2 Testable Hypotheses.....	101
5.2.1 The Proportion of Independent Directors and Affiliated Directors and Corporate Performance.....	101
5.2.2 Board Size and Corporate Performance	104
5.2.3 Independent Directors Characteristics and Corporate Performance	105
5.2.4 Incentives of Independent Directors and Corporate Performance.....	107
5.2.5 CEO Duality and Corporate Performance.....	108
5.2.6 Multiple Directorships and Corporate Performance.....	109
5.2.7 Frequency of Board Meetings and Corporate Performance.....	111
5.2.8 Active Agent vs. Passive Principal and Corporate Performance.....	112
5.2.9 Active Principal vs. Passive Agent and Corporate Performance.....	113
5.2.10 Market Reaction to The Appointment of Independent Directors.....	114
5.3 How to Measure Corporate Performance.....	116

5.3.1 Specific Performance Measures.....	116
5.3.2 Combined Performance Proxies.....	119
5.4 Corporate Governance Variables and Control Variables.....	120
5.4.1 Corporate Governance Variables Definition.....	120
5.4.2 Control Variables Definition.....	125
5.5 Summary.....	131
Chapter 6 Empirical Results: The Impacts of BoD on Corporate Performance....	132
6.1 Introduction.....	132
6.2 Sample and Data.....	132
6.2.1 Sample Construction.....	132
6.2.2 Data Collection.....	135
6.2.3 Outliers Control: Rank Transformation.....	135
6.3 Data Characteristics and Correlations.....	135
6.3.1 Corporate Governance Characteristics.....	135
6.3.2 Firm Characteristics.....	138
6.3.3 Rank Transformation.....	138
6.3.4 Correlations.....	142
6.4 Models and Empirical Results of Regression Analysis.....	145
6.4.1 Board Composition and Corporate Performance.....	145
6.4.2 Incentives of Independent Directors and Corporate Performance.....	151
6.4.3 Characteristics of Independent Directors and Corporate Performance.....	156
6.4.4 Board Structure and Corporate Performance.....	165
6.4.5 Frequency of Board Meetings and Corporate Performance.....	168
6.4.6 Sources of Directors and Corporate Performance.....	172
6.5 Robustness Study.....	175
6.5.1 Endogeneity Test	175
6.5.2 Results of Panel Data: Random-Effects Model.....	176
6.5.3 Tests of Curvilinear Effect.....	177
6.5.4 Results of Control Sample.....	179
6.5.5 Other Tests.....	180
6.5 Summary.....	182
Chapter 7 Empirical Results: The Market Reaction to The Appointment of Independent Directors.....	185

7.1 Introduction.....	185
7.2 Sample and Data.....	185
7.2.1 Sample Construction.....	185
7.2.2 Data Collection.....	186
7.3 Review of Event Study Literature.....	189
7.4 Models.....	192
7.4.1The Market-adjusted Model.....	192
7.4.2The Mean-adjusted Model.....	194
7.4.3Measures of Abnormal Return.....	194
7.5 Empirical Results of Event Study.....	195
7.5.1Sample Characteristics.....	195
7.5.2 Market Reaction to Independent Directors Appointment.....	198
7.6 Empirical Results of Cross-sectional Regressions.....	207
7.6.1Variables.....	207
7.6.2 Sample Characteristics.....	207
7.6.3 Explaining Returns by Agency Problems.....	212
7.6.4 Explaining Returns by Independent Director's Primary Occupation.....	216
7.6.5 Explaining Returns by Interactive Effect of Agency Problems and Independent Director's Primary Occupation	219
7.7 Further Tests and Robustness Checks.....	222
7.7.1 Does the Market Expect Benefits of The Appointment of Independent Directors?.....	222
7.7.2 Does the Quality of Independent Directors Matter?.....	225
7.7.3 Other Tests.....	226
7.8 Summary.....	227
Chapter 8 Conclusion and Policy implications.....	229
8.1 Introduction.....	229
8.2 Main Findings.....	230
8.3 Discussion and Policies Implications.....	235
8.3.1 Discussion.....	235
8.3.2 Policy Implications.....	241
8.4 Contribution of the Study.....	243
8.4.1 To The Literature.....	243
8.4.2 To Policy Makers and Investors.....	246
8.5 Limitations of the Study and Future Research Avenues.....	247

References

LIST OF TABLES AND FIGURES

Table 2.1 Five Theoretical Models on Role of BoD.....	35
Figure 3.1 The Structure and Major Topics of the Literature Review.....	40
Table 4.1 The Number of Listed Companies in China.....	69
Table 4.2 The Number of Listed Companies in Major International Stock Markets.....	70
Table 4.3 GDP and Stock Market Value in China.....	71
Table 4.4 Statistics of Stock Issued and Capital Raised in China.....	72
Figure 4.1 Typical Chinese Listed Company Ownership Structure.....	74
Table 4.5 Shareholding Structures of Chinese listed companies.....	78
Table 4.6 Shareholding Structures of Chinese listed companies in Different Industries.....	79
Figure 4.2 China State-Owned Assets Management System.....	91
Table 5.1 The Variables Definition.....	129
Table 6.1 Industry Information of the Final Sample.....	134
Table 6.2 Data Characteristics.....	139
Table 6.3 Data Characteristics after Rank Transformation.....	141
Table 6.4 Correlations Statistics for the Full Sample.....	143
Table 6.5 Board Composition and Corporate Performance.....	148
Table 6.6 Incentives of Independent Directors and Corporate Performance.....	153
Table 6.7 Incentives of Independent Directors and Corporate Performance: Interactive Effect.....	155
Table 6.8 Characteristics of Independent Directors and Corporate Performance: Primary Occupation Effects.....	158
Table 6.9 Characteristics of Independent Directors and Corporate Performance: Education Background Effects.....	161
Table 6.10 Characteristics of Independent Directors and Corporate Performance: Age and Gender Effects.....	164
Table 6.11 Board Structure and Corporate Performance.....	167
Table 6.12 Board Process and Corporate Performance.....	169
Table 6.13 Board Process and Corporate Performance: Interactive Effect.....	171
Table 6.14 Sources of Directors and Corporate Performance.....	174
Table 6.15 Summary of Main Findings.....	184
Table 7.1 Screening Process of Sample for Market Reaction to Independent Directors Appointment.....	187
Table 7.2 Characteristics of the Sample.....	197

Table 7.3 AAR of Independent Directors Appointment Announcements for Full Sample.....	199
Figure 7.1 Comparison of Average Abnormal Return (AAR) of Market Model and Mean Model for Full Sample.....	200
Table 7.4 CAR of Independent Directors Appointment Announcements for Full Sample.....	201
Table 7.5 AAR for Announcements of Independent Directors Appointment of Shanghai Stock Market and Shenzhen Stock Market Sub-samples.....	205
Table 7.6 CAR for Announcements of Independent Directors Appointment of Shanghai Stock Market and Shenzhen Stock Market Sub-samples.....	206
Table 7.7 Descriptive Statistics of Variables for Cross-sectional Regression.....	208
Table 7.8 Correlations Statistics of Variables for Cross-sectional Regression.....	211
Table 7.9 OLS Regression for Full Sample – Model 7.7.....	215
Table 7.10 OLS Regression for Full Sample – Model 7.8.....	218
Table 7.11 OLS Regression for Full Sample – Model 7.9.....	219
Table 7.12 AAR of Independent Directors Appointment Announcements for Sub-Sample Before August 2001.....	223
Table 7.13 CAR of Independent Directors Appointment Announcements for Sub-Sample Before August 2001.....	224
Table 8.1 Summary of Hypotheses Tests Results.....	234

Chapter 1 Introduction

1.1 Introduction

After about 15 years of development, the Chinese securities market has made great progress. Investors, policy makers and academics have paid more and more attention to this emerging market. However, corporate governance in China is rather unsatisfactory compared with the development degree of the securities market (CSRC, 1999). As a core part of corporate governance, board of directors (BoD) is supposed to play an essential role in monitoring, awarding and directing inside managers.

Berle and Means (1968) and Williamson (1984) point out that corporate governance is the integrated set of internal and external control mechanisms that harmonize manager-shareholder conflicts of the separation of ownership and control. According to Shleifer and Vishny (1997), corporate governance deals with the ways in which suppliers of finance to corporations assure themselves of getting a return on their investment. Cadbury (2000) argues that corporate governance is concerned with holding the balance between economic and social goals and between individual and communal goals. The corporate governance framework is there to encourage the efficient use of resources and equally to require accountability for the stewardship of those resources. The aim is to align as nearly as possible the interests of individuals, corporations and society. In addition, OECD (2004) documents that the corporate governance framework should ensure the strategic guidance of company, the effective monitoring of management by

board, and the board's accountability to the company and shareholders.

According to OECD (2004), together with guiding corporate strategy, BoD is chiefly responsible for monitoring managerial performance and achieving an adequate return for shareholders, while preventing conflicts of interest and balancing competing demands on the corporation. In order for BoD to effectively fulfill its responsibilities, it must be able to exercise objective and independent judgement. Another important BoD responsibility is to oversee systems designed to ensure that companies obey applicable laws, including tax, competition, labour, environmental, equal opportunity, health and safety laws.

Therefore, BoD is not only accountable to company and its shareholders but also has a duty to act in their best interests. In addition, BoD is expected to take due regard of, and deal fairly with, other stakeholder interests including those of employees, creditors, customers, suppliers and local communities.

With development of Chinese securities market, corporate governance is an absolutely hot topic. It is imperative to improve and reform corporate governance system in China thanks to a large number of financial scandals of listed companies and long sluggish market since 2000. Meanwhile, it is necessary to strengthen corporate governance mechanism in order to push confidence of investors, especially international ones. Therefore, we are all interested to ask questions about monitoring effectiveness of BoD in China. For example, how well does BoD play its role in this emerging market? Can it effectively direct development of companies business and improve financial performance of ailing State Owned Enterprises (SOE)? In particular, do higher board

independence result in better corporate performance? Do independent directors have enough incentives to do their job? This study mainly investigates the relationship between BoD and corporate performance using China evidence.

The rest of this chapter discusses the research background and motivations, aims, objectives and research questions, theoretical considerations and methodologies, contribution, and structure of this study.

1.2 Research Background and Motivations

The recent financial scandals of U.S. companies, such as Enron, Global Crossing, WorldCom and Xerox, European Parmalat and Adecco, have raised serious concerns about the reform of BoD in the world. The phenomena of financial scandals of listed companies in China seem to be more serious than those in the U.S., although the earnings number fudged by Chinese companies maybe a piece of cake of their American counterparts. As a result, China Securities Regulatory Commission (CSRC, 2001) required that all listed companies in China appoint at least two independent directors before 30 June 2002, and that one third of directors of board be independent directors before 30 June 2003.

According to theory of corporate governance (Monks and Minow, 1995, 2001), directors are presumed mainly to carry out the monitoring function on behalf of shareholders, because the shareholders themselves would find it very difficult to exercise monitoring due to wide dispersion of ownership structure. Thus, one should wonder

whether BoD is effective in monitoring managers, and how does the monitoring role of BoD influence corporate performance in China?

Conducting study on China is rather intriguing because of significantly different corporate governance mechanisms and ownership structure between China and developed countries. Unlike two-tier supervisory and management boards in Germany, insider-dominated boards in Japan, and mixed boards in the U.S. (Charkham, 1994), corporate boards in China in essence are one-tier, although all companies have a so-called supervisory board. In particular, boards of directors in U.S. are captured by the management (Mace, 1971; Jensen, 1993), but in China, they are in hands of state-owned large shareholders, and supervisory boards are just rubber stamp (Xue, 2001). Furthermore, there is big difference in ownership structure between companies in U.S. and China. According to Shleifer and Vishny (1997), ownership is quite dispersed in U.S., large shareholding or majority ownership is relatively uncommon. But in China, heavily concentrated shareholdings and a predominance of controlling ownership is the norm (Wei, 2002). Also, apart from U.S., Japan and Germany, where legal protection of shareholder right, especially minority shareholder right, is strong (Shleifer and Vishny, 1997), most other countries (including China) have inefficient legal protection of minority interests. Lastly, for investors and most listed companies, independent directors are rather new in China, and their monitoring effectiveness is still in doubt. These characteristics in China thus provide us an excellent opportunity to explore what underlying factors that affect monitoring effectiveness of the emerging corporate

governance system, and may result in different evidence about the relationship between BoD and corporate performance found in Western countries.

On the other hand, conducting study on China is also important as the economy is rather large and the economic potential is so huge since China resumed its membership of WTO in 2001 and is becoming “the world’s manufacturing center”. China has been the sixth biggest economy entity of the world since 2000. In purchasing power parity terms, the country contributed 1.1 percent of the world’s 3.2 percent growth in 2003, against 0.7 percent from the U.S. and 0.2 percent each from Japan and Europe¹. Its GDP in 2004 is over US\$ 1,653 billion with 9.5 percent increase compared with 2003.

There are a large number of empirical studies that have examined the correlation between BoD and corporate performance (such as Baysinger and Butler, 1985; Jones, 1986; Dalton and Kesner, 1987; Weisbach, 1988; Rosenstein and Wyatt, 1990; Hermalin and Weisbach, 1991; Byrd and Hickman, 1992; Yermack, 1996; Bhagat and Black, 1999; Coles et al., 2001; Cyert et al., 2002). However, little attention has been given to China.

In addition, few of previous studies examine effects of BoD on corporate performance from both direct shareholder wealth perspective and company financial performance perspective. This study not only employs typical event study to test stock market reaction to the appointment of independent directors, but also examines the relationship between BoD and corporate performance using multi-regressions models. The first approach can involve tractable data, which makes it easier for researchers to find

¹ Data from “China’s \$ 29 Test”, Financial Times, 21 January 2004.

statistically significant results. But it doesn't tell us how board composition affects overall firm performance. The second approach attempts to examine directly the correlation between BoD and firm performance. It allows us to examine the "bottom line" of firm performance (unlike the first approach), but involves much less tractable data. The combination of both approaches can provide us a full picture of how BoD affects shareholders well-being from direct and indirect perspectives.

In addition, Chinese authorities are trying to reform its underperforming corporate governance system (CSRC, 2002). However, there are few comprehensive studies to examine monitoring effectiveness of BoD in this emerging market. Therefore, there is little empirical evidence available to inform the authorities about actual performance of the corporate governance system. This study can provide some direct evidence for the authorities for further reform in corporate governance.

1.3 Aims, Objectives and Research Questions

The aim of the study is to examine the impacts of BoD on corporate performance in China. In particular, the study assesses the effects of four attributes of BoD — board composition, characteristics of directors, board structure and board process — on financial performance of Chinese listed companies. The specific objectives are combined with following discussion of research questions.

1.3.1 Can Independent Directors "Think Like Shareholders"?

As monitors of managers, BoD plays an important oversight and monitoring role in corporate governance. By providing directors with a financial stake in the performance of firms through incentive-based compensation, firms can align the interests of directors and shareholders (e.g., Vance, 1983; Geneen, 1984). Furthermore, Institutional shareholders and other corporate governance reformers have suggested that directors should be compensated using some type of equity-based incentives arrangement to make directors “think like shareholders” (Linden, Lenzner, and Wolfe, 1995; NACD, 1995; Dunlap, 1997). Some recent studies have examined the correlation between compensation, equity ownership of directors, and discreet tasks and corporate performance (see, for example, Kesner, 1987; Mehran, 1994; Farrer and Ramsay, 1998; Perry, 1999; Brick et al., 2002).

This study examines the effects of compensation and stock ownership of independent directors on corporate performance. In addition, it also examines the effects of board independence on corporate performance.

1.3.2 Is There any Board Size Effect?

The literature deals with two main sources of the board size effects: as board size increases, increased problems of communication, process, decision making and coordination, and decreased ability of the board to control management thereby lead to agency problems (Eisenberg et al., 1998). Such a view of point has been advanced by Lipton and Lorsch (1992) and endorsed by Jensen (1993). Empirical research on the effects of board size is sparse. Unfortunately, the available evidence has been mixed,

making it difficult to draw firm conclusions on the optimal board size in policy debates (e.g., Yermack, 1996; and Eisenberg et al., 1998).

According to the Corporate Law of 1993 in China, the number of directors should be between 5 and 19. Does board size affect corporate performance? This thesis examines the effects of board size.

1.3.3 CEO Duality VS Dual Leadership: Are We Fussy?

Board scholars usually study two kinds of board leadership: unitary and dual leadership. Unitary leadership exists when CEO serves also as the board chairman. Dual leadership means that different individuals hold the CEO and chair position. Dual leadership is predicted to have a more positive effect on corporate performance than unitary leadership because effective checks and balances are in place. Unitary leadership is a potential threat to the independence of the board. As noted by Jensen (1993), the lack of independent leadership makes it “extremely difficult for the board to respond early to failure in its top management team.” Jensen points out that when the CEO holds the position of the chairman if the board chairman and internal control systems fail, as the board cannot effectively perform its key function. Similarly, Fama and Jensen (1983) argue that concentration of decision management and decision control in one individual reduces a board’s effectiveness in monitoring top management.

A number of recent papers have addressed the effects of board leadership on corporate performance. However, the empirical results are mixed. Rechner and Dalton

(1991) find that there is a significant difference between CEO duality firms and those with independent board leadership in corporate performance measures, ROE, ROI and PM. They report that firms opting for independent leadership consistently outperformed those relying upon CEO duality. But Baliga et al. (1996) find that there is little evidence of operating performance changes around changes in duality status. Brickley et al. (1997) report that there is no evidence that unitary leadership structure is associated with inferior accounting and market returns.

Zhong (2002) finds that CEOs of 20.9 percent of listed firms in China serve also as the board chairman. He documents that CEO duality significantly reduces the independence of boards and increases the discretion of CEOs. CSRC (2001) stated that CEO and chairman should not be the same person in principle, and that if CEO and chairman are the same person, that there is at least half of directors are independent directors. It appears that CEO duality will be detrimental to monitoring of boards.

Are we too fussy about the leadership of boards? This study identifies impacts of different leaderships on corporate financial performance. In particular, it examines the effects of unitary and duality leadership respectively.

1.3.4 Is it True that the More Frequent the Board Meetings, the Better Monitoring Role?

Some scholars argue that board meetings are beneficial to shareholders. Lipton and Lorsch (1992) suggest that the most widely shared problem directors face is the lack of

time to carry out their duties. Similarly, Conger et al. (1998) suggest that board meeting time is an important resource in improving the effectiveness of a board. This view is reinforced by recent criticisms, in both the financial and the academic press, of directors who spread their time too thin by taking on too many outside directorships, confounding their ability to attend meetings regularly and, therefore, to monitor management well (e.g., Byrne, 1996; NACD, 1996). A clear implication of these articles is that directors in boards that meet more frequently are more likely to perform their duties in accordance with shareholders' interests.

However, Vafeas (1999) reports that boards meet more often following poor performance, suggesting that, as Jensen (1993) argues, board meetings are reactive, rather than proactive, measures. Direct evidence on the association between board meeting frequency and market value suggests that boards that meet more frequently are valued less by the market (Vafeas, 1999). Whereas, Xie et al. (2001) find that there is significantly negative correlation between the number of board meetings and discretionary accruals, which suggests that an active board may be a better monitor than an inactive board. Interestingly, the authors also find that a more active audit committee is associated with a reduced level of discretionary current accruals.

With recent mixed results on effects of frequency of boards meeting, this study explores this issue in China.

1.3.5 Do Characteristics of Independent Directors Matter?

As noted by Zehra and Pearce (1989), characteristics of board consist of two components. The first is the directors' background, which reflects age, gender, educational background, family background, demography, occupation, tenure, values, and experiences of directors and managers. The second component refers to those qualities that transcend directors' individual or collective characteristics and reflect the 'personality' of the board. Some empirical studies examine effects of such two components on corporate performance.

Norburn (1986) finds that industries in different development phases have different directors with specific characteristics. Kesner (1988) examines whether there is any difference among committee composition in characteristics of directors, such as occupation, type, tenure, and gender. The results of this paper show strong evidence to suggest that the composition of board committees, the audit, nominating, compensation, and executive, do differ in rather significant ways from that of corporate boards in general. Chtourou et al. (2001) report that average tenure on the company board for non-executive directors and the average number of directorships they hold in unaffiliated firms are negatively associated with the level of earnings management.

This study examines various characteristics of directors, such as age, gender, educational background, international exposure, occupation, and their impacts on the financial performance of Chinese listed companies.

1.3.6 Are Independent Directors too Busy to Mind Business?

Recently institutional investors and shareholders activists have criticized firms for appointing independent directors who hold directorships in multiple companies, contending that such directors are incapable of effectively monitoring the management of so many firms. Corporate governance activists echo these criticisms and propose specific limits to deal with the perceived problem. The Council of Institutional Investors (1998) argues that in the absence of unusual and highly specific circumstances, directors with full-time jobs should not serve on more than two other boards. The National Association of Corporate Directors (1996) is more lenient, suggesting that directors with full-time positions should not serve on more than three or four other boards. The Business Roundtable (1997), by contrast, believes that limits on the number of directorships are ill-advised.

Directors themselves disagree over the issue of multiple directorships. The most commonly shared complaint among directors, according to Lipton and Lorsch (1992), is insufficient time for the discharge of their professional responsibilities. A survey of directors of Fortune 500 companies by Korn/Ferry International (1998) finds that many directors believe too many board appointments place an excessive burden on a director. Ferris et al. (2005) find no evidence that multiple directors shirk their responsibilities to serve on board committees. They also do not find that multiple directors are associated with a greater likelihood of securities fraud litigation.

CSRC (2001) requires that independent directors with full-time jobs should not serve on more than five other boards. Will multiple directorships affect the effectiveness

of monitoring role of independent directors? This study examines the effects of directorships on financial performance of Chinese listed companies.

1.3.7 How Does the Market React to Appointment of Independent Directors?

Market reactions to board composition and structure should provide additional evidence of effectiveness of boards monitoring. If reactions are significantly positive, it implies that investors consider information conveyed by changes of board composition and structure good news. Otherwise, if reactions are significantly negative, it implies that investors consider information conveyed by changes of board composition and structure bad news. Rosenstein and Wyatt (1990) find that two-day cumulative average prediction error (CAPE) for the total sample and the noncontaminated sub-sample is significantly positive. Brickley et al. (1994) report corroborating evidence for shareholder wealth effects from another interesting view of point by examining a sample of firms adopting poison pills.

This study employs standard event study to examine market reaction to appointment of independent directors of Chinese listed companies. Considering the incompleteness in corporate governance of Chinese listed companies and the serious exploitation of large shareholders, it is expected that there will be significantly positive reaction to appointments of independent directors.

1.4 Theoretical Considerations and Methodologies

There are several theoretical models that discuss the roles of BoD in corporate governance. The legalistic model suggests that boards contribute to the performance of their firms by carrying out their legally mandated responsibilities, while the resource dependence model views BoD as important spanners that make timely information available to executives and as one of a number of instruments that management may use to facilitate access to resources critical to the firm's success. The class hegemony model considers boards as a means of perpetuating the powers of the ruling capitalist elite. According to this model, board membership is said to reflect a shared commitment among the ruling capitalists to control social and economic institutions, and so wealth. However, the stakeholders model argues that directors should not only maximize wealth of their shareholders, but also protect interests of other stakeholders, such as employees, customers, creditors, government, suppliers and communities. Whereas the agency theory model suggests that agency relationships should be the focal point in analyzing and studying role of BoD in corporate governance system.

As noted by Zahra and Pearce (1989), the agency theory model is most popular and well recognized in research on corporate governance. Owing to special ownership structure of listed companies, agency problems have recently received more and more attention in China from the academic and the authorities. According to Qian (1995) and Firth et al. (2003), agency problems in China are potentially more serious than in the West. Therefore, this study mainly employs the agency theory model as the theoretical

base to examine effects of BoD on corporate performance. At the same time, however, it utilizes other theories, such as the resource dependence theory, to develop testable hypotheses.

As far as methodology is concerned, as noted before, this study examines the relationship between BoD and corporate performance from two perspectives. On the one hand, it employs the typical event study methodology — the market-adjusted model and the mean-adjusted model — to test the stock market reaction to the appointment of independent directors. In addition, it uses multi-regression models to examine factors that affect the abnormal returns on the event day. Through this way, we can find whether the market considers the appointment of directors as good news. On the other hand, it mainly utilizes Ordinary Least Regression (OLS) multi-variables models to test effects of BoD on company financial performance. Meanwhile, this study employs the three-stage least squares (3SLS) model to examine the endogeneity problem since BoD could affect firm performance, but firm performance could also affect the firm's BoD.

1.5 Structure of the Study

This section specifies the structure of the dissertation. It consists of nine chapters.

Chapter one serves as an introduction to the study, and discusses the research background and motivations, aims and objectives, research questions, and theoretical considerations and methodologies.

Chapter two discusses different models exploring the roles of directors and their

impacts on corporate performance. They are the legalistic model, the resource dependence model, the class hegemony model, the stakeholders model and the agency theory model.

Chapter three reviews the literature on the relationship between BoD and corporate performance. This review is structured around a set of four attributes of the board: composition, characteristics, structure, and process. The main focus is the composition of BoD. The reviewed papers come from the financial, accounting, managerial, legal and economic literature pertaining to BoD, specifically to director independence. Furthermore, it also reviews the effects of incentives of directors, such as compensation and equity ownership on corporate performance.

Chapter four is concerned with discussing institutional background of China. It briefly explains the development process of the securities market, and then analyzes the role of external control market in corporate governance in China. Furthermore, it discusses the concentrated ownership and transition process of corporate governance.

Chapter five presents testable hypotheses and defines variables. Firstly, ten research hypotheses are drawn on which empirical studies of the dissertation are based. Then it analyses how to measure corporate performance. In addition, it defines governance variables and control variables.

Chapter six examines the impacts of board composition, characteristics of independent directors, board structure and process, and sources of directors on corporate performance. Multi-regression models are mainly employed to test the correlations.

Chapter seven mainly presents the empirical results of the event study on market reaction to independent directors' appointment. First there is a brief review of the literature of the event study. Then a discussion of the associated models follows. The fourth section reports the findings of these models. The fifth section presents the results of cross-sectional regressions. The sixth is robust test. The last section summarizes the chapter.

Chapter eight presents a brief summary of the overall study, and highlights the main conclusions and contribution. A number of suggestions for policy makers are also reported. Finally, limitations of this study and elicit some future research probabilities are discussed.

Chapter 2 Literature Review: Theories

2.1 Introduction

Research on the role of boards and the extent to which boards undertake each role has been guided by five classical and distinct theoretical models. In this chapter, I mainly evaluate these models, the legalistic model, the resource dependence model, the class hegemony model, the stakeholders model and the agency theory model. For each model, the review focuses on role of boards, relevant empirical evidence and its limitations. The main purpose of the review is to build a theoretical basis to develop testable hypotheses and discuss findings of this study.

2.2 Legalistic Model

This model suggests that boards contribute to the performance of their firms by carrying out their legally mandated responsibilities. Advocates of this model posit that corporate laws vest considerable powers in directors to enable them to fulfil their roles. For instance, the Revised Model Business Corporation Act (1985) in the U.K. states that all corporate powers shall be exercised by or under the authority of, and the business and affairs of the corporation managed under the direction of, its BoD, subject to any limitation set forth in the articles of incorporation. As also argued by Hermalin and Weisbach (2003), it is a product of legalistic regulation that why boards can exist and can carry out their functions.

According to this model, boards are responsible for corporate leadership without actual interference in day-to-day operations, which are duties of CEO and other senior executives. It views the role of the board as including responsibility for selecting and replacing the CEO, representing the interests of the firm's shareholders, providing advice and counsel to top management, and serving as a control mechanism by monitoring managerial and company performance (Marttar and Ball, 1985; Carpenter, 1988; Walsh and Seward, 1990; Barmhart, Marr and Rosenstein, 1994; John and Senbet, 1998; Lasfer, 2002; Hermalin and Weisbach, 2003). Thus, by performing these activities, boards can enhance the performance of their companies.

The legalistic model has sparked considerable empirical research as well as public debate over the past five decades. Extant findings show that directors do not always fulfil their legally mandated responsibilities (Winter, 1964; Bacon, 1973; Epstein, 1986; Fleischer et al., 1988; Lipton, 1992; Gilson and Roe, 1993; Millstein and MacAvoy, 1998; Gibbs and Tankel, 1998). Legalistic theorists argue that boards fails to ask executives questions about companies' goals and performance, do not evaluate CEO performance thoroughly, and do not review managerial decisions before approving them. In fact, some boards have been indicated for failing to examine the consequences of mergers, proposed and approved by managers, for shareholders wealth (Fleischer et al., 1988).

From this model, board's failure to fulfil their roles is often explained by the fact that boards have long been considered "creatures of the CEO" (Patton and Baker, 1987). CEOs are thought to play a most significant role in designing and leading the board.

Accordingly, it is argued that most CEOs do not want a strong board that will challenge their power and authority (Gibbs and Tankel, 1998). As a result, loyalty to the CEO becomes a major criterion in selecting, retaining, and compensating directors.

Managerial domination of boards is seen as having resulted in inadequate attention to board processes. Often, directors function on information provided by the CEO. The flow of information between the CEO and directors is often inadequate (Millstein and MacAvoy, 1998). Thus, directors are not in a position to challenge CEO in the absence of reliable data. Board observers from the legitimacy school of thought note that board decision making is also ineffective. Meetings are infrequent, short, and too superficial to result in insightful discussions of issues at hand (Patton and Baker, 1987).

Overall, the findings from the legalistic model have ignited a search for better ways to design effective boards (Zahra and Pearce, 1989). Despite the important contribution of the legalistic approach, there are some shortcomings of this model. First, this model tends to ignore the important contribution boards can make in cooperating the external environment or in developing and implementing strategies. Second, researchers have shown interest in composition variables without sufficient attention to board structure and process. Thus, though normative theory emphasizes board composition, structure, and process, only composition is emphasized in empirical studies. Third, Johnson et al. (1996) note that research following this tradition is fraught with confusion about the nature of corporate control. Last, the legalistic model presumes that shareholders' wealth is well defined and easily measured. Yet, it fails to offer a precise yardstick to reach such a

determination. Are corporate survival and distribution of dividends adequate measures of shareholders' wealth? Should market value be used instead? Clearly, a central concept in the legalistic model, shareholders' interest and wealth, has escaped careful measurement.

2.3 Resource Dependence Model

Grounded in sociology and organizational theory, the resource dependence model views boards as important spanners that make timely information available to executives and as one of a number of instruments that management may use to facilitate access to resources critical to the firm's success.

Despite the theoretical proximity of the interlock and resources dependence approaches, they differ in a fundamental way (Zahra and Pearce, 1989). According to the resource dependence model, directors help the firm interface with its general and competitive environments. In contrast, the interlock approach focuses almost exclusively on company's interface with its competitors. An interlock occurs when an individual sits as a member of the BoD of two companies. Interlocks can be direct or indirect. A direct interlock exists when one or more directors of one company serve on the board of a second company. An indirect interlock exists when directors of two different companies serve on the board of a third company, often with the intention to coordinate the activities of the firms involved.

Empirical support for the resource dependence model emerged from research by

sociologists and economists on board interlocks. These scholars (e.g., Zald, 1969; Pfeffer, 1972, 1973; Pfeffer and Salancik, 1978) viewed boards as viable entities whose contribution lies mainly in creating and enhancing mutually beneficial interorganizational relationships. Directors not only provide vital linking pins to other companies, but they also ensure favourable transactions among these firms. The net effects of these actions are increased coordination among organizations, reduced transaction costs, and improved access to vital information and resources (Bazerman and Schoorman, 1983).

An extensive body of empirical and theoretical work on interlocking directors has developed over the decades. Resource dependence model is grounded in Selznick's (1949) study. Research by Zald (1969), Pfeffer (1972, 1973), and Pfeffer and Salancik (1978) provide much of the framework for investigations into the use of boards as a mechanism for managing resource dependencies. Several aspects included among these are board size, the proportion of outside directors, patterns of interlocks between firms representing different economic sectors (Burt, 1980), and the repair of accidentally "broken" director interlocks (Omstein, 1984; Palmer, 1983; Richardson, 1987). Moreover, several authors have reviewed directors' resource role (e.g., Galaskiewicz, 1985; Mizruchi and Galaskiewicz, 1993; Penning, 1980; Scott, 1991; Zahra and Pearce, 1989).

Overall, the resource dependence model gained considerable attention in the 1970s and 1980s. This model contributed greatly to increasing our understanding of the board's role as a linking pin, tying the firm and its environment (Palmer, 1983). However, this model has some limitations. On the one hand, it does not define or even theorize the

process by which directors develop their strategies to link the firm and its environment. On the other hand, it neglects the dynamics of power associated with board composition and change. Boards do not just exist or match environments; rather, boards are designed and developed to achieve this fit. By overlooking processes and individuals associated with changes in board composition, this model gives the impression that designing effective boards is a simple and straightforward task (Johnson et al., 1996).

2.3 Class Hegemony Model

The class hegemony model on the role of boards of directors is rooted in Marxist sociology. It views boards as a means of perpetuating the powers of the ruling capitalist elite. In particular, board membership is said to reflect a shared commitment among the ruling capitalists to control social and economic institutions, and so wealth. As evidence of this model, it suggests that only the most influential, prestigious individuals are invited to serve on boards (Mills, 1956; Ratcliff, 1980; Zahra and Pearce, 1989; Johnson, Daily and Ellstrand, 1996). By excluding other social groups, the values and interests of the ruling capitalists are protected. Thus, the envisioned task of the board is to coordinate actions by the firms they serve and, more importantly, to ensure capitalist control of societal institutions.

According to the class hegemony model, two board roles are important: service and control. Board performance of these two roles depends on two variables: concentration of

ownership and CEO power and style. In this model, CEOs are representative of the capitalist elite. CEOs are seen as having considerable power that they may exercise to enhance or reduce board involvement. Board input is thought to be valued only if it is compatible with CEO objectives, preferences, and style.

In this model, CEO is the ultimate power broker in the firm. Representing the values of the capitalist elite, CEO and senior executives develop and implement strategic initiatives that are reviewed by directors. This review aims to ensure the consistency of CEO's initiatives with the interests of the owners.

Advocates of class hegemony theory define company performance as consisting exclusively of two components: financial and systemic. The social empirical evidence in support of this model has been limited. Indeed, most available evidence centres on patterns of selective board membership where the background of new members is examined to ascertain their wealth and their connection to company. The intent was to confirm whether the richest in the U.S. society are invited to serve on boards (Domhoff, 1969; Ratcliff, 1980).

This model has two main limitations. First, it neglects changing patterns of corporate ownership. Though some individuals still hold considerable blocks of corporate stocks, institutional investors represented by pension and trust funds owned by millions of citizens have become an important force in large corporations. Thus, focusing on the presumed powers of a capitalist elite may not be well justified (Zahra and Pearce, 1989; Johnson et al., 1996). Second, it suffers from a lack of specificity in that a board can

enrich company performance, except for the presumption that class hegemony results in increased market powers for specific firms in a given industry.

2.4 Stakeholders Model

This model argues that directors should not only maximize wealth of their shareholders, but also protect the interests of other stakeholders, such as employees, customers, creditors, government, suppliers and communities (e.g., Freeman, 1984; Clarkson, 1994; Blair, 1995; Jensen, 2001). According to this model, a stakeholder in an organization is any group or individual who can affect or is affected by the achievement of the organization's objectives. Clarkson (1994) states that the firm is a system of stakeholders operating within the larger system of the host society that provides the necessary legal and market infrastructure for the firm's activities.

According to the stakeholders model, the purpose of a firm is to create wealth or value for its stakeholders by covering their stakes into goods and services. Blair (1995) argues that the goal of directors should maximize total wealth creation by the firm. The key to achieving this is to enhance the voice of directors and providing ownership-like incentives to those participants in the firm who contribute or control critical, specialized inputs and to align the interests of these critical stakeholders with interests of outside, passive shareholders.

Hill and Jones (1992) have built on the work of Jensen and Meckling (1976) to

recognize both the implicit and explicit contractual relationships in a firm to develop 'Stakeholder Agency Theory'. The interdependence between a firm and its strategic stakeholders is recognised by the American Law Institute (1992) which states: ' The modern corporation by its nature creates interdependences with a variety of groups with whom the corporation has a legitimate concern, such as employees, customers, suppliers, and members of the communities in which the corporation operates'.

Stakeholders theory scholars further recommend to policy makers that they should encourage long-term employee ownership and encourage board representation by significant customers, suppliers, financial advisers, employees, and community representatives. They also recommend that corporations seek long term owners and give them a direct voice in governance (i.e., relationship investors) and to nominate significant owners, customers, suppliers, employees, and community representatives to the BoD (Porter, 1992; Turnbull, 1997).

Overall, the findings from the stakeholders model have ignited a search for better protection of interests of other stakeholders other than shareholders. However, this model suffers from several limitations. On the one hand, different stakeholders have different objectives and interests. The stakeholders model suffers a lack of specificity of their objectives and interests. On the other hand, more often than not is it a dilemma to realize interest maximising of firm shareholders and other stakeholders at the same time in practice. It is often to maximize one stakeholders interest at the expense of other stakeholders interest. As argued by Jensen (2001, P. 299),

“What is commonly known as stakeholder theory, while not totally without content, is fundamentally flawed because it violates the proposition that any organization must have a single valued objective as a precursor to purposeful or rational behavior... It is logically impossible to maximize in more than one dimension at the same time... Telling a manager to maximize [several objectives] leaves the managers with no objective. The result will be confusion and lack of purpose that will fundamentally handicap the firm in its competition for survival.”

2.5 Agency Theory Model

First introduced in the literature of information economics to provide a theoretical model for the relationship between one party (principal) who delegates work to another party (agent), agency theory received attention in the organizational control literature (Thompson, 1967; Ouchi, 1979), presenting implications for compensation, risk, and information systems (Eisenhardt, 1985, 1989). This theory argues that agency relationships should be the focal point in analyzing and studying corporate governance. Agency theorists believe that owing to the separation of corporate ownership and management, managers possess considerable freedoms and powers (Jensen and Meckling, 1976). Left alone, these managers are believed to pursue objectives that may contradict the goals of the principals, hence shareholders' wealth maximization may be overlooked. Within this context, boards perform the critical function of monitoring and rewarding top

managers to ensure maximization of shareholders' wealth. In essence, the board is seen as the ultimate mechanism of corporate control (Baysinger and Butler, 1985; Fosberg, 1989; Hermalin and Weisbach, 1991; Millstein and MacAvoy, 1998; Lasfer, 2002).

Following this model, board contributes to corporate performance by lowering agency costs arising from noncompliance of managers with established goals and procedures, by articulating shareholders' objectives and focusing the attention of key managers on company performance, and through strategic decision making and control (Mizruchi, 1983).

Agency theory offers a comprehensive definition of board's composition, characteristics, decision process and structure. According to Johnson et al. (1996), this definition is similar to that of the legalistic model with a notable exception. Agency theorists have shown more attention to board decision making processes than have legalistic scholars. This emphasis is consistent with agency theorists' interest in how boards perform their job and how they monitor managerial actions to reduce agency costs.

It is important to note that agency theory places a premium on a board's strategic contribution, specifically the board's involvement in and contribution to the articulation of the firm's mission, the development of the firm's strategy, and the setting of guidelines for implementations and effective control of the chosen strategy (Millstein and MacAvoy, 1998). Although the existing literature does not fully define the content of this strategic contribution, advocates believe that it becomes evident at those critical points when

important choices must be made (Zahra and Pearce, 1989). Examples of critical choices are responding to a takeover bid (e.g., Byrd and Hickman, 1992; Lee et al., 1992; Kini, Kracaw, and Mian, 1995; Cotter et al., 1997; Brook et al., 2000; Bradbury and Mak, 2000), making or defending against a takeover bid (e.g., Kosnik, 1987; Mallette and Fowler, 1992; McWilliams and Sen, 1997; Manry and Nathan, 1999), or considering corporate bankruptcy (e.g., Daily and Dalton, 1994a; Daily and Dalton 1994b; Daily, 1995).

Agency theory scholars pay special attention in their empirical analyses to the direct link between board roles and company performance. Of paramount importance to them is the monitoring or control role. In assessing the role of the board as a vehicle of corporate control, researchers tend to focus on replacing the CEO (e.g., Weisbach, 1988; Boeker, 1992; Borokhovich et al., 1996; Huson et al., 2001), deciding CEO compensation (e.g., Kerr and Kren, 1992; Boyd, 1994; Hallock, 1997; Core et al., 1999; Cyert et al., 2002), awarding CEO golden parachutes (e.g., Cochran et al., 1985; Singh and Harianto, 1989a, 1989b; Wade et al., 1990; Davidson et al., 1998), and monitoring top managers against earnings management or manipulation (e.g., Peasnell et al., 2000; Chtourou et al., 2001; Xie et al., 2001).

However, agency theory model suffers several following shortcomings. First, the agency notion is founded on some questionable assumptions about CEO (agent) values and motives (Kaen et al., 1998). For example, agency theories start their analyses with the assumption that CEOs, driven by self-interests, will deviate from the shareholders'

mandate. By accepting this assumption without debate, agency theorists neglect some rival and more contemporary theories of the firm that posit that companies must contribute to the quality of life in their communities and societies. Failure to perform this important social responsibility role may undermine shareholders' long-term interest. Therefore, in balancing conflicting demands on the firm, CEO's deviation from short-term wealth maximization may be prudent (Goodrich, 1987).

Second, like the legalistic model, the agency theory model has thus far failed to document the extent to which directors perform their different roles and how they make decisions. Thus, the assumption that directors do a creditable job in monitoring CEO and senior executives' performance lacks support (Zahra and Pearce, 1989).

Third, although the agency theory model emphasizes the crucial importance of the board's strategic role, no supporting evidence exists. Also, and perhaps more serious, board critics charge that board strategic contribution is too infrequent to make a significant difference in company performance (Johnson et al., 1996). These critics suggest that CEOs do not want directors to participate in designing or implementing strategies that are considered to be within the CEO's domain (Rosenstein, 1987). These critics also suggest that poor directors' selection and ineffective board decision-making processes handicap directors' strategic contribution (Zahra and Pearce, 1989).

2.6 Brief Comparison of the Five Models

Table 2.1 summarizes the five models. From above review, we can find that these

models differ meaningfully in their views of what directors should do, which board attributes influence corporate performance, which criteria should be used to assess board attribution to company performance.

[Table 2.1 goes about here]

In combination, the five theoretical models contrasted in Table 2.1 identify three important board roles: service, strategy, and control. The above review disclosed a wide gap between the normative literature's recognition of these board roles and empirical documentation of the extent to which each is performed in reality.

For instance, though the control roles are well recognized in the normative literature (e.g., Vance, 1983; Huson et al., 2001). Research has shown that many boards fail to monitor CEO performance or evaluate CEO decisions, such that board analyses of corporate performance are often perfunctory (Zahra and Pearce, 1989; Core et al., 1999; Cyert et al., 2002). Thus, board's performance of their control role is often inadequate. In addition, there are few empirical studies about impacts of board characteristics on corporate performance.

Overall, the tentative nature of empirical evidence on performance of the three board roles may be partially explained by the shortcomings of past research. These research efforts have often been limited in scope, based on convenience samples, and inconsistent in operationalization of board variables. Moreover, the bulk of this research has focused on the direct associations between board attributes and current company performance. These limitations suggest that caution is advised in interpreting empirical

findings on the relationship between BoD and company performance.

As noted by Zahra and Pearce (1989), the agency theory model is most popular and recognized in research on corporate governance although it also suffers several limitations as discussed in last section. Owing to the special ownership structure of listed companies, agency problems have recently received more and more attention in China from the academic and the authorities. According to Qian (1995) and Firth et al., (2003), agency problem in China is potentially more serious than in the West. As a result, China has adopted, if not entirely embraced, U.S.-style ownership and governance reform in listed companies to mitigate effect of the problem. It is therefore of interest to see if governance reform, especially reform of BoD, in China has led to improvement in corporate performance. If the expected improvement of corporate performance does not materialize, then this may be partly due to the role of the government or the unique characteristics of China's listed firms and business environment, or it will take longer time for corporate governance reform to play role. A failure to reduce agency costs and improve corporate performance may imply that the reforms are more in form than in substance.

On the other hand, while agency theory examines board effectiveness based on the assumption of "goal conflict" between the principal and the agent (Eisenhardt, 1989), legalistic model assumes boards contributes to the performance of their firms by carrying out their legal responsibilities, class hegemony model consider boards as a means of perpetuating the powers of the ruling capitalist elite, and stakeholders model assume

boards should not only maximize wealth of their shareholders, but protect interests of other stakeholders. Agency theory stresses that board independence has a positive effect on board effectiveness (Huse, 1994). In comparison, legalistic model focuses on the positive performance implication of fulfilling legal responsibilities of directors (John and Senbet, 1998). As noted by Sun et al. (2002), and Li (2003), the law system in China is still developing especially in corporate governance. There is even no formal act governing responsibilities of independent directors although CSRC issued some regulations.

In addition, with development of market-oriented economy and transition of social ideology, class hegemony theory is obviously outdated in current China institutional context (Li, 2003). It is also reasonable to believe that the inclination of individuals to act as stewards for each stakeholders or self-seeking agents may be contingent on the institutional context (Turnbull, 1997). In a similar vein, whether the board acts as an effective monitor or an ineffective “rubber stamp” depends on the institutional context in which it plays its role. As noted above, the ongoing corporate governance reform in China is aimed to duplicate the stylised Anglo-American corporate governance model in the SOEs and enhance board independence (Wu et al., 1998). In this sense, China’s board reform philosophy is consistent with agency theory.

Therefore, although the agency theory model suffers from several above shortcomings, this study mainly uses it as the theoretical base to examine effects of BoD on corporate performance. At the same time, however, it employs resource dependence

theory to develop testable hypotheses. Li (2002) reports that majority of independent directors appointed by Chinese listed companies are celebrity. They are famous professors, senior managers of other companies, recently retired government officers, banker, lawyers and CPAs. According to the resource dependence model, independent directors can facilitate access for appointing companies to precious resources, such as capital, which is critical to their success. Therefore, independent directors can employ their relationship network to help companies stay in the business and even improve their performance (Tian, 2000).

Table 2.1 Five Theoretical Models on Role of BoD

	The Legalistic model	The resource dependence model	The class hegemony model	The stakeholders model	The agency theory model
Board role	<ol style="list-style-type: none"> 1. Representing and protecting shareholders' interests 2. Managing the corporation without interference in day-to-day operations 	<ol style="list-style-type: none"> 1. BoD is a cooperative mechanism to extract resources to firm performance 2. BoD serves a boundary spanning role 	<ol style="list-style-type: none"> 1. BoD perpetuates the power and control of the ruling capitalist elite 	<ol style="list-style-type: none"> 1. Representing and protecting stakeholders' interests 	<ol style="list-style-type: none"> 1. The primary role of BoD is to monitor actions of agents to ensure their efficiency and to protect principals' interests
Operational definition of boards' role	<ol style="list-style-type: none"> 1. Selecting CEO 2. Monitoring CEO performance 3. Evaluating company performance 	<ol style="list-style-type: none"> 1. Scanning the environment 2. Securing valuable resources 3. Representing firm in the community 	<ol style="list-style-type: none"> 1. Selective recruitment of directors 2. Reducing transaction cost for member firms 	<ol style="list-style-type: none"> 1. Creating wealth or value for all stakeholders 2. Aligning interests of inside stakeholders with those of outside shareholders 	<ol style="list-style-type: none"> 1. Maximizing shareholders' wealth 2. Reducing agency costs 3. Selecting and rewarding CEO 4. Evaluating CEO and firm performance
Theoretical origins	Corporate law	Sociology	Marxist sociology	Economics and Organizational theory	Organization control and Economics
Variables of interest	<ol style="list-style-type: none"> 1. Composition 2. Process 	<ol style="list-style-type: none"> 1. Composition 2. Leadership structure 	Composition	<ol style="list-style-type: none"> 1. Composition 2. Leadership structure 	<ol style="list-style-type: none"> 1. Process 2. Composition
Company performance measures	<ol style="list-style-type: none"> 1. Profitability 2. Growth 	<ol style="list-style-type: none"> 1. Growth in resources 2. Goal achievement 	Profitability	<ol style="list-style-type: none"> 1. Growth 2. Profitability 	<ol style="list-style-type: none"> 1. Profitability 2. Low operating costs
Empirical support	Moderate	Strong	Limited	Moderate	Moderate

2.7 Summary

This chapter discusses some theoretical issues about the roles of directors. There are five popular models to explain directors' role in corporate governance mechanism. The legalistic model suggests that boards contribute to the performance of their firms by carrying out their legally mandated responsibilities. The resource dependence model views boards as one of a number of instruments that management may use to facilitate access to resources critical to the firm's success.

The class hegemony model is rooted in Marxist sociology and views boards as a means of perpetuating the powers of the ruling capitalist elite. The stakeholders model argues that directors should not only maximize wealth of their shareholders, but also protect interests of other stakeholders, such as employees, customers, creditors, government, suppliers and communities. The agency theory model argues that agency relationships should be the focal point in analyzing and studying corporate governance. Overall, these five models have several limitations

As noted by Zahra and Pearce (1989), the agency theory model is the most popular and recognized in research on corporate governance. According to Qian (1995) and Firth, Fung and Rui (2003), agency problem in China is potentially more serious than in the West. In addition, the agency theory is argued to be more direct and appropriate to evaluate impacts of BoD on corporate performance (Fosberg, 1989; Millstein and MacAvoy, 1998; Lasfer, 2002). Thus, this study mainly uses this model as the theoretical base to examine the effects of board of directors on corporate performance. The resource dependence model is also used when appropriate.

Chapter 3 Literature Review: Empirical Studies

3.1 Introduction

According to the theory of corporate governance (Monks and Minow, 1995, 2001), BoD is presumed mainly to carry out the monitoring function on behalf of shareholders, because the shareholders themselves would find it very difficult to exercise monitoring due to wide dispersion of ownership structure. How does the monitoring role of BoD influence corporate performance? This question has generated considerable attention and interest in recent years in such diverse academic fields as finance, accounting, management, law and economics, but with mixed and contradictory results.

This chapter reviews of prior studies on the effects of BoD on corporate performance since Zehra and Pearce's (1989). As will be evident in subsequent sections, the literature provides little consensus as to the effects of boards. The lack of consensus may result from the attributes of BoD—composition, characteristics, structure and process.

As noted by Zehra and Pearce (1989), attributes determine a board's undertaking of its monitoring role and, ultimately, its effects on corporate performance. The review of empirical research has identified four board attributes: composition, characteristics, structure, and process. Thus, this review is structured around a set of four attributes of the board. According to Zehra and Pearce (1989), board composition denotes the size of the board and the mix of the director type. Size refers to the number of directors who serve on the board. Type refers to the widely recognized dichotomy between inside and outside directors. Outsiders are not members of the top management team, their associates, or families; are not employees of the firm or its subsidiaries; and are not members of the

immediate past top management group (Jones and Goldberg, 1982)². Thus, composition of boards includes two variables: size, and type of directors.

Characteristic consists of two components. The first is the directors' background, which reflects the age, educational background, values, and experiences of directors and managers. The second component refers to those qualities that transcend directors' individual or collective characteristics and reflect the 'personality' of the board (Zehra and Pearce, 1989). Board scholars suggest that boards develop their distinct styles or models of operations or personalities (Lynch, 1979; Mueller, 1981). This personality reflects a board's disposition to focus on internal versus external issues; level of directors' independence from management influence (Geneen, 1984); and their vested interest in the firm as evidenced by stock ownership (Knsner, 1987). Board personality is believed to be more enduring than the characteristics of individual directors (Lynch, 1979). This personality is thought to change only if a significant, quantum change occurs in board composition and directors' background variables.

Board structure refers to the dimensions of the board's organization. As showed by Zehra and Pearce (1989), it covers the number and type of committees, committee membership, the flow of information among these committees, board leadership, and patterns of committee membership. Process signifies the approach the board takes in making its decisions. Past research shows that board process embodies five elements: the frequency and length of meetings, CEO-board interface, level of consensus among directors on issues at hand, formality of board proceedings, and the extent to which the

² Some scholars divide directors into three types, inside directors, grey directors or affiliated directors, and outside directors or independent outside director (e.g., Baysinger and Butler, 1985; Byrd and Hickman, 1992; Bacon et al., 1997; Davidson et al., 1998; Bhagat and Black, 1999). Grey directors or affiliated directors are not full-time employees of the firm but are associated with it in some way. This class includes investment bankers, commercial bankers that have made loans to the firm, lawyers providing services to the firm, consultants, officers and directors of the firm's suppliers and customers, and interlocking directors.

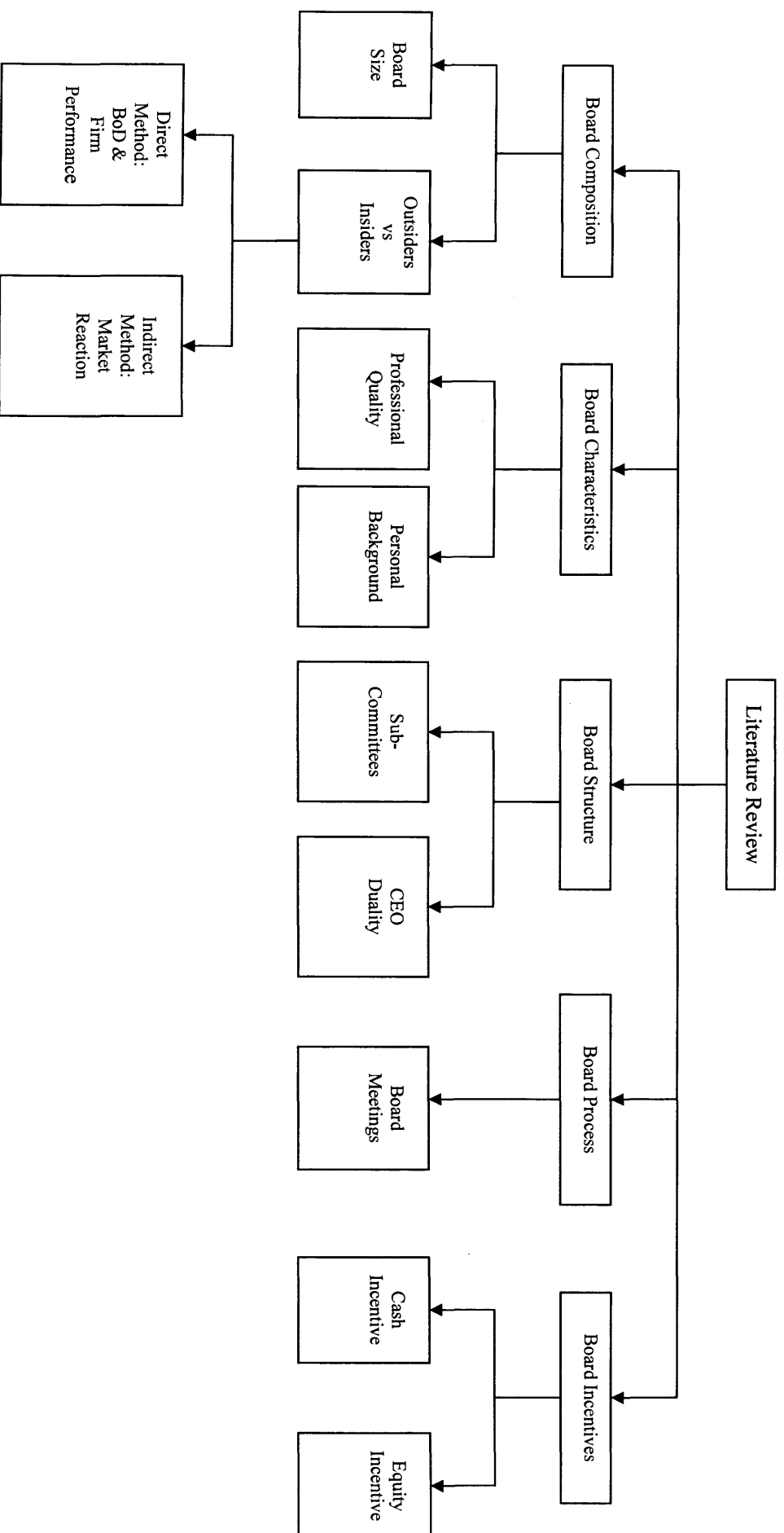
board is involved in evaluating itself (Mueller, 1979; Vance, 1983).

In the fairly short time since Zehra and Pearce's (1989) review, a lot of studies have been published which address the effects of BoD on corporate performance. Beyond that, there have been a number of empirical efforts that, while not directly focused on the BoD, have relied on elements of the board for control variables (e.g., Buchholtz and Ribbens, 1994; Ocasio, 1994; Zajac and Westphal, 1995), as well as theoretical frameworks of BoD (e.g., Donaldson and Davis, 1991; Pearce and Zahra, 1992; Li, 1994; Westphal and Zajac, 1995; Muth and Donaldson, 1998). This chapter focuses the review here primarily on composition of BoD. It includes research coming from the financial, accounting, managerial, legal and economic literature pertaining to the board, specifically director independence.

In addition, there is a review of the effects of incentives of directors, such as compensation and equity ownership on corporate performance. Figure 3.1 presents the structure and major topics of the literature review of this chapter.

[Figure 3.1 goes about here]

Figure 3.1 The Structure and Major Topics of the Literature Review



3.2 Board Composition and Corporate Performance

3.2.1 Board Size Effects

The literature deals with two main sources of the board size effects: as board size increases, increased problems of communication, process, decision making and coordination, and decreased ability of the board to control management thereby leading to agency problems (Eisenberg, Sundgren and Wells, 1998). Such a view of point has been advanced by Lipton and Lorsch (1992) and endorsed by Jensen (1993). Empirical research on the effects of board size is sparse. Unfortunately, the available evidence has come up mixed, making it difficult to draw firm conclusions on optimal board size in policy debates. Holthausen and Larcker (1993a) consider board size among a range of variables that might influence firm performance and executive compensation. They fail to find consistent evidence of a correlation between board size and company performance.

Yermack (1996) finds a range of additional of evidence which is consistent with the finding that companies achieve the highest market value when boards are small. Several measures of operating efficiency and profitability are negatively related over time to board size within firms. A corroborating evidence for firm profitability is due to Eisenberg et al. (1998). The authors report that size is negatively and significantly correlated with a firm's industry-adjusted return on assets after controlling for other factors, and the results hold for both the combined sample and for the sample limited nonbankrupt firms. Interestingly, they observe declines in profitability even for board sizes of three, four and five members.

The paper offers a couple of explanations for its finding. First, communication and coordination problems apply to much smaller boards than those considered by Lipton and

Lorsch (1992), and Jensen (1993). Second, board size reflects the evolving nature of the firm. A third explanation is that board size is correlated with board composition variables, and the composition explains the results. The last one is that companies adjusted board size in response to their past performance.

The findings of Yermack (1996) and Eisenberg et al. (1998) have serious implication for corporate governance. It is possible to improve boards' effectiveness by restricting board size. This is a challenge to prior theories in the finance literature that holds that market-based mechanisms should lead to optimal governance structures across firms.

3.2.2 Outsiders V.S. Insiders: Effects on Corporate Performance

Prior studies of the effects of BoD on corporate performance generally adopt one of two approaches. The first one is direct approach, which directly examines the correlation between attributes of boards and corporate performance. The second approach is indirect, which involves studying how attributes of boards affect the board's behaviour on discrete tasks, such as replacing the CEO, making or defending against a takeover bid, deciding CEO compensation, awarding golden parachutes, or monitoring managers against earning management or manipulation. The indirect approach can provide insight into how different boards behave on discrete tasks. It also tends to involve relatively tractable data, which makes it easier for researchers to find statistically significant results (Bhagat and Black, 1999). The principle weakness of this approach is that it cannot tell us how attributes of boards affect overall firm performance. Firms with outsiders dominated boards could perform better on particular tasks, such as replacing the CEO, yet worse on

other tasks, leading to no net advantage in overall performance. The first approach directly examines the bottle line of firm performance, and it can avoid the principle weakness of the second approach. But the direct approach raises different problems. Firm performance must be measured over a long period of time, which leads to noisy and misspecified data (Bhagat and Black, 2000). This makes it hard to find statistically significant results, even if a correlation between attributes of boards and corporate performance in fact exists. Thus, both approaches are needed to provide a full picture of how attributes of boards affect behaviour and corporate performance.

This section reviews the evidence on whether board composition affects corporate performance. Also, it surveys studies that address whether board composition affects the board's behaviour on discrete tasks.

3.2.2.1 Effects on Corporate Financial Performance

Board scholars usually use two kinds of methods to measure corporate performance. The first one is to use market value, such as stock market return, or shareholder wealth, and Tobin's Q as a performance measure, the idea being that it reflects the value added of intangible factors such as a governance. The second method has been to examine correlations between accounting measures of performance and board composition.

3.2.2.1.1 Effects on Shareholder wealth

Market reactions to board composition and structure should provide additional evidence of effectiveness of boards monitoring. If reactions are significantly positive, it implies that investors consider information conveyed by changes of board composition and structure good news. Otherwise, if reactions are significantly negative, it implies that

investors consider information conveyed by changes of board composition and structure bad news.

Rosenstein and Wyatt (1990) find that two-day cumulative average prediction error (CAPE) for the total sample and the noncontaminated subsample is significantly positive. These results imply that the expected benefits of outside guidance gained from these appointments outweigh the expected costs of potential managerial entrenchment and inefficient decision making. In addition, they find no evidence that outside directors of any particular occupation are chosen to entrench management. Brickley et al. (1994) report corroborating evidence for shareholder wealth effects from another interesting view of point by examining a sample of firms adopting poison pills.

However, the above studies limit their points on outside directors. They do not consider the stock-market reaction to inside directors. The paper by Rosenstein and Wyatt (1997) fills in the gap by examining the stock-market reaction to appointments of inside managers to corporate boards. They report that the average stock-market reaction to appointments of inside managers to corporate boards is close to zero. However, the stock-price effects vary significantly across levels of inside ownership.

The above empirical research only tests the U.S. companies, the paper by Fox and Opong (1999) freshens the literature by examining the impacts of the entry and exit of board directors on the shareholders wealth of U. K. listed firms. Unlike previous studies, this study distinguishes between the different types of board changes. The paper looks at following changes (1) a new appointment, (2) resignation, (3) retirement and (4) death. The study is for the period from January 1990 to December 1994.

The main result is that changes in the composition of management boards affect shareholders wealth. The paper reports small but statistically significant positive abnormal returns on the day of announcements of new board appointments as well as on the day subsequent to the public announcement of the appointment. It is noteworthy that the only statistically significant abnormal returns occur after the announcements of resignations from the board. This appears to indicate that shareholders suffer negative wealth effects but not until three days after the announcement; which, in turn, implies that the market takes some time to digest the information signals provided by the resignations. Interestingly, significantly positive abnormal returns are experienced by shareholders two days before the announcement of retirement from the board.

3.2.2.1.2 Effects on Direct Financial Performance

The literature also uses accounting-based ratios to measure corporate performance other than shareholder wealth to test the effects of board composition. However, the empirical results are mixed.

The paper by Baysinger and Butler (1985) attempt to examine whether firms with more independent board perform better or changes in board composition toward independence improve performance. The authors find that board independence measured in 1970 had a positive and significant correlation with the RFP (relative financial performance) measured in 1980. However, the opposite result did not hold, i.e., RFP measured in 1970 did not have a significant correlation with the board independence measure in 1980.

The inclusive aspect of board composition effects of performance has also been documented by Hermalin and Weisbach (1991) who attempt to measure differences in

corporate performance caused by board composition and ownership structure. The study uses a sample of 142 NYSE firms for 1971-1983. An industry-adjusted average Tobin's Q is used as a measure of profitability. The authors do not find any relation between board composition and performance.

An opposite evidence is provided by Barmhart et al. (1994). They find that both board composition and ownership are significantly related to corporate overall performance with ordinary least squares regressions. Millstein and MacAvoy (1998) report a substantial and statistically significant correlation between an active, independent board and superior corporate performance.

The continuing debate on board composition effects has been pursued by Bhagat and Black (2000). In particular, they seek to answer the following questions: Does greater board independence produce better corporate performance? Does board composition respond to firm performance conversely? Overall, Bhagat and Black find that there is no evidence that greater board independence leads to improved firm performance. However, they find a reasonably strong poor performance and subsequent increase in board independence.

A related inquiry into composition effects is pursued by Coles, McWilliams, and Sen (2001). They find that there is no significant relationship between governance structure and EVA or MVA. However, the authors find significant relationships for the positive impact of industry on both MVA and EVA. Lasfer (2002) attempts to test the hypothesis that board composition and its impact on value is a function of firm's growth opportunities. The author finds that in the pre-Cadbury period (1990-1991) there is no strong relationship between firm value and board composition. In contrast, the analysis of

firms in the post- Cadbury period (1996-1997) shows significant difference in the board composition and in the relationship between firm value and board structure between high growth and low growth firms.

Most of debate of board composition effects focuses on U.S. and U.K. companies. Dehaene et al. (2001), Hossain et al. (2001), and Postma et al. (2002) do some fresh jobs on emerging markets. Because the big difference of corporate governance mechanisms of emerging markets and those of US and UK, these studies appear quite interesting.

As demonstrated by the research reviewed here, there is little consistency in findings regarding the relationship between board composition and corporate financial performance. In numerous studies, papers used Rosentein and Wyatt approach appear to more clearly establish a correlation between board composition and ultimate value than the other studies reviewed above. The Rosentein and Wyatt approach controls for all firm-specific effects and tests directly for the desired effects. Controlling for firm-specific effects is critical because there is no reason to imagine that a specific board composition (for example, percentage of outsiders) is optimal for all firms (Hermalin and Weisbach, 2003). Hence, the impact of board composition on performance could be difficult to identify cross-sectionally.

Several limitations of past research warrant attention. First, as MacAvoy and Millstein (1999) argued, why researchers have heretofore generally failed to detect a relationship between board composition and corporate performance is that they have used “old” data---that is, data that preceded boards taking an activist role. Most of papers reviewed here look at corporate performance and board composition through a rear-view mirror. Indeed, many studies use historical, or contemporaneous, not lagged, measure of

performance. One would assume that changes introduced into one or more of the board variables took time before they influenced corporate performance in a significant fashion.

Second, there is no consensus on what constitutes appropriate measures of corporate financial performance. A long list of dependent variables included in studies reviewed here includes return on assets (ROA), return on equity (ROE), return on investment (ROI), return on sales (RS), Tobin's Q, relative financial performance (RFP), market-to-book ratio of common equity (MB), market adjusted stock price returns (MASPR), sales to assets (SA), excess return (ER), Ohlson's expected residual income (ERI), market value added (MVA), economic value added (EVA), and market-to-sales ratio (MS). Indicators of firm profitability such as ROA, ROE, ROA and RS have been reported for a single year, multiple lagged years, or an average of some period. In other cases, these measures have been adjusted for industry effects---usually defined by reference to two, three, or four digit SIC codes---either by subtracting or dividing by the average of the returns for firms within an industry, or by subtracting the industry average from the focal firms' returns, and then dividing by the standard deviation of the industry returns. Other studies have made further adjustment to returns measures to account for risk, most commonly by dividing the return by the firm's beta. The lack of consensus on choice and operationalization of dependent variables severely limits the generalizability of boards' effects research findings.

Third, there is a narrow definition of corporate performance in the board literature. As noted above, the bulk of past research focuses on the financial dimension of company effectiveness. Though insightful, past research has ignored the systemic and social dimension of company performance. To advance research and better assess board effects

on performance, research needs to appraise the systemic and social responsibility components of performance.

Fourth, there is an apparent lack of uniformity in defining dependence of outside directors, and derivatively, board dependence. In fact, it is not clear when to use the absolute number, proportion, or dominance measures of outside directors' representation. In fact, the relative merits and limitation of each have yet to be defined (Zahra and Pearce, 1989). Moreover, an examination of the analytical approaches used to study the issue shows a widespread use of simple univariate techniques even when the measures were independent. As a result, prior researchers have failed to account for the interrelationships among the measures, thereby raising suspicions about the results. In addition, the rationale for studying outsider representation centered on the possibility that these directors were more objective, independent, and experienced than inside directors. However, no attempts have been taken to determine the association between outside directors' classification and these qualities.

Finally, samples of studies reviewed here have been inadequate to address the range of questions that have been asked. The large majority of studies focused on large companies, especially public ones. These firms are important to the national economy, have been the target of corporate governance reform, and provide the relative ease of data collection. Although these are all important considerations, exclusive attention on big listed firms ignores the contribution of boards in different types of firms. For instance, the role of boards in smaller, medium size, unlisted companies, and nonprofit firms has yet to be examined in a systematic fashion. Moreover, most of researchers focus their interest on developed countries, especially on U.S. International evidence on board effects on

corporate performance is little. Emerging markets, like China, Russia, Indonesia and India, are often ignored by board scholars.

3.2.2.2 Discrete Tasks of Outsiders and Insiders

3.2.2.2.1 CEO Turnover

One of the board's primary responsibilities is CEO selection and replacement. CEO turnover, thus, is one possible measure of gauging board monitoring efficiency. The paper by Weisbach (1988) tests the hypothesis that outside and inside directors behave differently in their decision to remove the CEO. He finds that the performance measures play a significant role in firing the CEO if the board is outsider-dominated. No similar results are obtained for insider-dominated boards. Borokhovich et al. (1996) find that the average abnormal return is positive and significant for both inside and outside appointments when the incumbent departs voluntarily. In addition, Huson et al. (2001) report that outside directors are more likely to fire a CEO than inside directors.

Taken as a whole, these studies provide some evidence that independent directors behave differently than inside directors when they decide whether to replace the current CEO when the organizational performance is poor. However, the differences seem rather marginal, and it is not clear whether majority- or supermajority-independent boards make better or worse decisions than other boards, on average. Moreover, the above studies limit their attention on US uni-tier corporate governance. There is little evidence on directors' behavior on CEO replacement under differently corporate governance system, such as Japan-Germany system and emerging markets system. It is not clear whether there is any systematic difference of director behavior on CEO replacement between different corporate governance systems.

3.2.2.2.2 Corporate Takeover

As articulated by Fama and Jensen (1983) and Williamson (1983), when the takeover market is weak, there is a greater role for internal control by the board resulting a greater proportion of outside directors. When the takeover market is active, the hypothesis predicts that less internal control is necessary, allowing the board to be dominated by insiders and decision experts. Outside directors serve as substitute control mechanisms for corporate takeovers to monitor management. Therefore, another corporate decision that could present directors with a conflict of interest is the adoption of takeover provisions. The active takeover market of recent years has provided a laboratory for studying interaction between BoD and the market for corporate takeovers as alternative devices to monitor and control the performance of top management.

An important task for BoD is to decide whether and at what price the company should be sold. Byrd and Hickman (1992) find that the average announcement-date abnormal return is significantly less negative for bidding firms on whose boards at least half the seats are held by independent outside directors. Kini et al. (1995) report that an inverse relation that pre-takeover performance and CEO turnover. Cotter et al. (1997) find that targets with independent boards experience higher shareholder gain from the inception of the offer to its resolution than do other targets after controlling for target firm and tender offer characteristics.

Taken above studies as a whole, the studies of the role of the target company's board in an acquisition provide evidence that majority-independent boards extract higher prices from bidders. But they do not enable us to conclude that majority-independent boards produce better outcomes for shareholders of potential target firms, let alone better

outcomes for the more relevant group—all public shareholders.

3.2.2.2.3 CEO Compensation

Another critical job of the BoD is to determine compensation for the CEO and other senior executives. A related research is pursued by Kerr and Kren (1992). The paper attempts to test the extent to which boards use relative decision monitoring to evaluate and compensate corporate chief executives. The authors find that CEO decision making is an important factor in determining the compensation of executives. Moreover, relative decision monitoring partially compensates for a board's inability to judge the quality of a CEO's decision directly. BoD appears to have considerable access to information on CEO operating decisions as well as the decisions of competitors and may be capable of incorporating such information into the evaluation process.

Boyd (1994) finds that CEO salaries are greater in firms with lower levels of control. Contrary to expectations, the ratio of inside directors is negatively associated with CEO compensation. Moreover, the author finds that CEO compensation is not significantly related to firm size or profitability.

Core et al. (1999) report that both board-of-director characteristics and ownership structure have a substantive cross-sectional association with the level of CEO compensation, after controlling for standard economic determinants of the level of CEO. In particular, CEO compensation is also higher when outside directors are older and serve on more than three other boards.

Overall, the impact of BoD' composition on executive pay is unclear given the mixed nature of the empirical results. Taking the evidence as a whole, there is little evidence that independent directors do a better job than inside directors in establishing

CEO compensation. As noted by Hermalin and Weisbach (2003), the conclusions from this literature are ambiguous because the empirical specifications are not derived from a fully specified theoretical model of the role of corporate governance in CEO compensation. Additionally, studies reviewed here have used very different measures to operationalise board control, thus limiting generalizability.

3.2.2.2.4 Resources Development

Sometimes management uses directors to facilitate access to resources critical to firm's long-term performance. Resources development is grounded in Seznick (1949). Research by Mizruchi and Stearns (1988) provide much of the framework for investigation into use of boards as a mechanism for managing resource dependences.

In their following study, Stearns and Mizruchi (1993) attempt to examine the extent to which a firm's board composition affects its use of external financing. The authors argue that once established, a director interlock provides both a firm and a financial institution with an ongoing opportunity to co-opt one another. The authors find that the amounts of funds borrowed by firms are positively associated with the presence on their boards of representatives of the types of financial institution that are the primary suppliers of those funds.

Taken these two studies as a whole, there is a clear correlation between board composition and resources development, especially capital. However, one problem with these studies is that they are based on a long period time, which leads to noisy and misspecified data. This makes it hard to find robust results, even if a correlation between compositions of boards and resources development in fact exists. In addition, these studies employ small size sample, and sample companies all are big listed ones, which

further limit the generalizability of their findings.

3.2.2.2.5 Earnings Management

Independent directors are generally considered better monitors than other directors because they have the “ability to act with a view of the best interests of the corporation” (TSE, 1994). Further, non-executive directors have incentives to develop a reputation as experts in decision control and monitoring (Fama and Jensen, 1983). Several recent studies demonstrate an association between directors’ independence from management and the board’s monitoring effects on earnings management.

Peasnell et al. (2000) report that firm with a higher proportion of outside board members are associated with less income-increasing earnings management when pre-managed earnings fall below either zero or last year’s reported earnings. Moreover, the authors find that the constraining effect of outside directors is largely confined to firms where the separation of ownership and control is most acute, as reflected in a low level of managerial stock ownership. Chtourou et al. (2001) find that earnings management is significantly associated with some of the governance practices by boards of directors.

The continuing debate on board composition effects on earnings management has been pursued by Xie, Davidson and DaDalt (2001). The study attempts to examine the relation between earnings management and the structure, background, and composition of a firm’s BoD. The main finding of the study is that earnings management is less likely to occur or occur less often in companies whose boards include both more independent outside directors and directors with corporate experience. Interestingly, the authors find that the tenure of outside directors is positive related to the level of discretionary current

accruals.

Taken the above studies as a whole, there is a clear negative correlation between the proportion of independent directors and earnings management. However, these studies do not try to interpret a causal link between board composition and earnings management because of the endogeneity problem that impacts much of the board literature (Hermalin and Weisbach, 2003). Moreover, the above studies also do not examine the precise mechanisms by which boards influence earnings management.

3.3 Board Characteristics and Corporate Performance

As noted above, characteristics of board consist of two components. The first is directors' background, which reflects age, gender, educational background, family background, demography, occupation, tenure, values, and experiences of directors and managers. The second component refers to those qualities that transcend directors' individual or collective characteristics and reflect the 'personality' of the board (Zehra and Pearce, 1989). Some empirical studies examine effects of such two components on corporate performance at the same time, and others are not.

Norburn (1986) finds that directors in growth industries are characterized by nine different factors, such as short tenure with their firms, disposition to use participative decision styles, high international exposure, early retirement, younger age, and low first boss influence. In turbulent industries, directors exhibit a different profile. Kesner (1988) examines whether there is any difference among committee composition in characteristics of directors, such as occupation, type, tenure, and gender. The results of this paper show strong evidence to suggest that the composition of board committees, the audit,

nominating, compensation, and executive, do differ in rather significant ways from that of corporate boards in general.

Kosnik (1990) explores the extent to which a board of director's demographic characteristics influence a company's decision to privately repurchased stock from a dissIDENT stockholder. Kosnik finds that companies are more likely to refrain form greenmail transaction the longer the average tenure of their outside directors and the more similar the directors' principle occupation. Bilimoria and PINDERit (1994) report that after experienced characteristics are controlled, male directors have a higher likelihood of being compensation committee membership than female directors. As for nominating committee, membership for this committee does not differ for male and female directors.

Overall, the above studies show company performance or discrete task is associated with distinct director background and personality. As such, these studies have provided an important glimpse into the psychological and cognitive components of director behaviour. These variables shape directors' characteristics and skills and may have manifested themselves in the varying levels of corporate performance. However, little attention has been given to reaching an agreement on a definition of relevant board characteristics, and examining the consequences of such characteristics for board roles and, ultimately, corporate performance.

3.4 Board Structure and Corporate Performance

Board structure refers to the dimensions of the board's organization. As noted by Zehra and Pearce (1989), it covers the number and type of committees, committee membership, the flow of information among these committees, and board leadership. There are few of empirical studies examining the flow of information among committees.

Thus, in this section, I mainly review researches on effects of committees and board leadership on corporate performance.

3.4.1 Sub- Committees

The effectiveness of the board may be affected by its composition and characteristics, but also its internal administrative structure. Conyon and Peck (1998) attempt to examine the correlation between compensation committees and top management pay. They report that there is a positive correlation between compensation committees and levels of top management pay. Moreover, the authors find that management pay and company performance are more aligned when there is a higher proportion outside directors on a main board or a high proportion serving on a compensation committee.

Klein (1998) finds little association between firm performance and overall board composition. However, by going into inner workings of the board via board committee composition, the author finds significant ties between corporate performance and how boards are structured. Daily et al. (1998) find that there is no evidence of a systematic relationship between compensation committee interdependence and CEO compensation. Klein (2002) examines whether audit committee and board characteristics are related to earnings management by the firm. After controlling for other determinants of abnormal accruals and auditing committee composition, the author finds that the magnitude of abnormal accruals is more pronounced for firms with audit committee comprised of less than a majority of independent directors.

Taken above studies as a whole, there is little clear evidence to support that there is a significantly positive correlation between sub-committees of the board and corporate performance. As for discrete tasks, such as monitoring earnings management by firms,

sub-committees comprised by independent directors appear do a better job than their those comprised by inside directors or affiliated directors. However, these studies have paid little attention on specific characteristics of directors, which leads to difficulties in getting significant evidence of sub-committees and corporate performance. Furthermore, as for the selection of sample, these studies have discriminations against medium or small firms. They all focus on large listed companies, which limits the generalizability of their results.

3.4.2 Board Leadership

Board scholars usually study two kinds of board leadership: unitary leadership and dual leadership. Unitary leadership exists when CEO serves also as the board chairman. Dual leadership means that different individuals hold the CEO and chair position. Dual leadership is predicted to have a more positive effect on corporate performance because effective checks and balances are in place. Unitary leadership is potential threat to the independence of the board. As noted by Jensen (1993), the lack of independent leadership makes it “extremely difficult for the board to respond early to failure in its top management team.” Jensen points out that when the CEO holds the position of the chairman if the board chairman, internal control systems fail, as the board cannot effectively perform its key function. Similarly, Fama and Jensen (1983) argue that concentration of decision management and decision control in one individual reduces a board’s effectiveness in monitoring top management. A number of recent papers have addressed the effects of board leadership on corporate performance. But the results are mixed.

A related research has been pursued by Rechner and Dalton (1991). They find that there is significant difference between CEO duality firms and those with independent board leadership along corporate performance measures, ROE, ROI and PM. More specifically, firms opting for independent leadership consistently outperformed those relying upon CEO duality. Baliga et al. (1996) report that the market is indifferent to changes in a firm's duality status changes. In particular, there is little evidence of operating performance changes around changes in duality status. Brickley, Coles, and Jarrell (1997) find that there is no evidence that unitary leadership structure is associated with inferior accounting and market returns.

Taking the above evidence as a whole, however, there is no consistent evidence that dual board leadership structure do a better a job than unitary board leadership structure in corporate performance or discrete tasks such as replace ineffective CEOs. In addition, these studies do not provide rich information on how board leadership structures influence board decision styles.

Overall, the studies about board structure have failed to incorporate appropriate controls to alleviate the confounding impact of internal or external variables. For example, one should not expect the same board sub-committees or organizations to exist in different industries, across different phase of the company cycle, or in different countries (Dalton and Kesner, 1987). Therefore, to understand how board structure relates to corporate performance, one should pay attention to these and other contextual variables. Finally, the implication of board structure for the execution of its role should be examined more systematically. As noted by Zehra and Pearce (1989), the indirect effect on corporate performance will be stronger than that of the direct effect.

3.5 Board Process and Corporate Performance

As noted above, board process signifies the approach the board takes in making its decisions. Past research shows that board process embodies five elements: the frequency and length of meetings, CEO-board interface, level of consensus among directors on issues at hand, formality of board proceedings, and the extent to which the board is involved in evaluating itself (Mueller, 1979; Vance, 1983). This section mainly reviews studies that examine effects of frequency and length of meetings the boards on corporate performance, because there is litter study about other elements of board process.

Some scholars argue that board meetings are beneficial to shareholders. Lipton and Lorsch (1992) suggest that the most widely shared problem directors face is lack of time to carry out their duties. Similarly, Conger, Finegold, and Lawler (1998) suggest that board meeting time is an important resource in improving the electiveness of a board. This view is reinforced by recent criticisms, in both the financial and the academic press, of directors who spread their time too thin by taking on too many outside directorships, confounding their ability to attend meetings regularly and, therefore, to monitor management well (e.g., Byrne, 1996; NACD, 1996). A clear implication of these articles is that directors in boards that meet more frequently are more likely to perform their duties in accordance with shareholders' interests.

Xie et al. (2001) review above attempts to examine effects of board process on earnings management by firm. The authors find that there is a significantly negative correlation between the number of board meetings and discretionary accruals, which suggests that an active board may be a better monitor than an inactive board. Interestingly, the authors also find that a more active audit committee is associated with a reduced level

of discretionary current accruals.

Taken above studies as a whole, there is little evidence that there is direct correlation between board process and corporate performance. Although Xie et al. (2001) find that board activity does influence directors' ability as effective monitors, but the authors cannot interpret their results as demonstrating a causal link between board and audit committee composition and earnings management because of the endogeneity problem that impacts much of the board literature (Hermalin and Weisbach, 2003). An active board and audit committee may influence the level of earnings management, but the level of earnings management may influence the subsequent selection of board and audit committee members. In particular, there are some problems the above studies do not answer. What powers do outside directors have, in practice, in shaping the meeting agenda? How free is the exchange of ideas during board meetings? How much meeting time is left beyond routine, unproductive tasks to address substantive issues? In the absence of reliable data on the content of board meetings, the empirical examination of these issues remains a challenge, which results in difficulties in getting significant results about board process and corporate performance.

3.6 Incentives of Directors and Corporate Performance

As monitors of managers, BoD plays an important oversight and monitoring role in corporate governance. By providing directors with a financial stake in the performance of the firm through incentive-based compensation, firms can align the interests of directors and shareholders (e.g., Vance, 1983; Geneen, 1984). Furthermore, Institutional shareholders and other corporate governance reformers have suggested that directors

should be compensated using some type of equity-based incentives arrangement to make directors “think like shareholders” (Linden, Lenzner, and Wolfe, 1995; NACD, 1995; Dunlap, 1997). Some recent studies have examined the correlation between compensation and equity ownership of directors and discrete tasks and corporate performance.

Kesner (1987) reports that inside directors own a far greater amount of stock than outside directors. Mehran (1994) finds that firms with more outsiders on the board make greater use of equity-based compensation. Perry (1999) attempts to examine whether the structure of director compensation affects CEO turnover. He finds that incentive compensation for independent directors is associated with increased monitoring as indicated by an increased sensitivity of CEO removal to performance.

Brick, Palmon, and Wald (2002) report that the CEO compensation variables are significantly positively related to the number of directors, while CEO cash and total compensation are significantly negatively related to the percentage of inside directors. The authors also find a negative relation between director compensation and changes in future Tobin's Q and ROA.

Overall, there is little evidence that there is a significantly positive relationship between incentives of directors, compensation or equity ownership, and corporate performance. However, the studies above find some evidence that providing directors with a bigger financial stake does add the effectiveness of their monitoring. One of problems of above studies is that they pay little attention on the difference of incentives of directors, such as cash compensation, bonus, share and stock options in different industries, in different size firms, in different phase of the company cycle, or in different countries. This makes it hard to find statistically significant results, even if a correlation

between incentives of directors and corporate performance in fact exists.

3.7 Summary

BoD is one of key parts of corporate governance. It has attracted considerable attention from scholars in finance, accounting, management, law and economics. This chapter has surveyed the empirical literature on the correlation of BoD and corporate performance.

Although the chapter focuses on the relation between independent directors and corporate performance, it has also surveyed the literature on boards characteristics, board structure, board process and incentives of board members with corporate performance.

The review shows that there is a growing interest in understanding how BoD influences corporate performance through monitoring management, especially in some discrete tasks, such as earnings manipulation, replacing unqualified top managers, after Enron debacle and Global Crossing bankruptcy, although there has been no documented evidence of the correlation of boards of directors and corporate performance. As noted by Monks and Minow (1995), maybe such relationship simply does not exist in nature. Or, if it does exist, its magnitude is such that they are not of practical importance, or we have not hunted in the right place, at the right time, with right tools.

Several limitations of past research warrant attention. First, as MacAvoy and Millstein (1999) argued, why researchers have heretofore generally failed to detect a relationship between board composition and corporate performance is that they have used “old” data---that is, data that preceded boards taking an activist role.

Second, there is no consensus on what constitutes appropriate measures of corporate

financial performance. The lack of consensus on choice and operationalization of dependent variables severely limits the generalizability of boards' effects research findings. Third, there is a narrow definition of corporate performance in the board literature. To advance research and better assess board effect on performance, research needs to appraise the systemic and social responsibility components of performance.

Fourth, there is an apparent lack of uniformity in defining dependence of outside directors, and derivatively, board dependence. In fact, it is not clear when to use the absolute number, proportion, or dominance measures of outside directors' representation. In fact, the relative merits and limitation of each have yet to be defined (Zahra and Pearce, 1989). Finally, samples of studies reviewed here have been inadequate to address the range of questions that have been asked. The large majority of studies focused on large companies, especially public ones. Moreover, most of researchers focus their interest on developed countries, especially on U.S. International evidence on board effects on corporate performance is few. Emerging markets, like China, Russia, Indonesia and India, are often ignored by board scholars.

As noted by Bhagat and Black (2000), the principle weakness of the indirect approach through examining discrete tasks of BoD is that it cannot tell us how independent director affects overall firm performance. Firms with outsiders dominated boards could perform better on particular tasks, such as replacing the CEO, yet worse on other tasks, leading to no net advantage in overall performance. The direct approach directly examines the bottleneck of firm performance, and it can avoid the principle weakness of the indirect approach.

Therefore, in order to enrich the literature, the dissertation employs Chinese data to directly examine the correlation between independent directors and corporate past, current and future performance. In particular, it uses market-based and accounting-based performance measures to capture effects of BoD. In addition, event study is employed to test the effects of the appointment of independent directors on shareholder wealth.

Chapter 4 Institutional Background of China

4.1 Introduction

This chapter provides an institutional background of China. The purpose of this chapter is to provide a brief analysis of how China economy has evolved since 1978, how the economy reforms affect the development of corporate governance, and discuss current issues of corporate governance. It is a basis for the next chapter to formulate and develop testable hypotheses. It explains the development of the securities market. In addition, it discusses the concentrated ownership structure and the development of corporate governance analyses problems of corporate governance in China.

4.2 Brief Review of China's Economic Development

The modern China economic development began in 1978. In December of that year, the Central Committee of the Communist Party of China (CPC) held an historic meeting in Beijing, at which Leader Deng Xiaoping put forward two important policies. One was to open the door of China to the outside world, and the other, to invigorate the national economy through reform. As it turned out, the meeting marked a new page in the economy of China. Since then, China has embarked on a gradual switch from the central planned economy to what we now call the socialist market economy (Zhang, 1998).

Reforms came to the rural areas. First, the people's communes were dismantled, thus ending a system that had kept the farmers in an economic straitjacket for years. Urban reforms came somewhat later and not without difficulty. At the same time, reforms of state-owned enterprises (SOEs) began. On the one hand, the old system under which

people were paid without having to work hard has been abolished. On the other hand, large amounts of foreign capitals have been pouring in and joint ventures with SOEs have been mushrooming, especially in the coastal areas.

Since Deng Xiaoping's "Comments on the Southern Tour" in 1992, economy development in the coastal region has intensified. In 1994, CPC held another historic meeting to develop market economy. Since then China's economy has further integrated into the global economy. After a long time negotiation, China became as a member of WTO in 2001, which is expected to have a significance on China's economic growth.

The successful adoption of the reforms has brought about a sustained and rapid development in the national economy. In 1978, China gross domestic product (GDP) was US\$ 44 billion, and in 2003, China has become the sixth biggest economy entity of the world. Its GDP in 2003 is over US\$ 1,400 billion with 9.1 percent increase compared with 2002. It is the first time that GDP per capital in China exceeds US\$1,000 and reaches US\$1,090.

4.3 The Development of China Securities Market

The China's current securities market really began from the formation of Shanghai Stock Exchange (SHSE) on March 1990 and Shenzhen Stock Exchange (SZSE) on November 1991. During such short period, the securities market has gained rapid expansion. There were only 10 listed companies in 1990, and 14 in 1991, but the number increased to 1,235 in 2002 (See Table 4.1). Table 4.2 shows that in the six stock markets in Asia, the number of listed companies in China matches that in Japan in 2000, and dramatically exceeds that in Taiwan and Hong Kong.

[Table 4.1 goes about here]

[Table 4.2 goes about here]

The stock market capitalisation in China was RMB 104.81 billion (about U.S. dollar 12.70 billion) at the end of 1992, accounting for 3.93 percent of the country's GDP. However, this reached RMB 4,809.09 billion in 2000 (about U.S. dollar 508.02 billion), which was 53.79 percent of that year's GDP (see Table 4.3). This rapid growth has made China one of the largest stock markets in Asia. At the end of 2000, Hong Kong's stock market capitalisation of was U.S. dollar 584 billion (about RMB 5,080.80 billion), equal to 382.45 percent of its GDP. South Korea's stock market capitalisation was U.S. dollar 188 billion (about 1,635.60 billion RMB), which amounted to 32.44 percent of its GDP. Taiwan's stock market capitalisation was U.S. dollar 231 billion (about RMB 2,009.70 billion), equal to 76.75 percent of its GDP. If adding the stock value of shares issued on overseas markets, the total stock market capitalisation of China has exceeded that of Hong Kong and become the second biggest stock market in Asia in 2000.

[Table 4.3 goes about here]

Capital raised by listed companies has experienced rapid growth. Table 4.4 shows that in 1991, listed companies in China issued 0.5 billion shares and raised about 0.5 billion RMB, and in 2000, they issued 14.57 billion A shares and raised about 100.74 billion RMB.

[Table 4.4 goes about here]

Table 4.1 The Number of Listed Companies in China

This table reports the number of listed companies in China during the period of 1990 to 2003. (1) SH-A, listed companies issued A shares in Shanghai Stock Exchange; (2) SH-B, listed companies issued B shares in Shanghai Stock Exchange; (3) SH-AB, listed companies issued A and B shares at the same time in Shanghai Stock Exchange; (4) SH-AH, listed companies issued A shares in Shanghai Stock Exchange, and at the same time issued H shares in overseas markets; (5) SS-A, listed companies issued A shares in Shenzhen Stock Exchange; (6) SS-B, listed companies issued B shares in Shenzhen Stock Exchange; (7) SS-AB, listed companies issued A and B shares at the same time in Shenzhen Stock Exchange; (8) SS-AH, listed companies issued A shares in Shenzhen Stock Exchange, and at the same time issued H shares in overseas markets.

	SH-A	SH-B	SH-AB	SH-AH	SS-A	SS-B	SS-AB	SS-AH	Total
1990.12.31	8	0	0	0	2	0	0	0	10
1991.12.31	10	0	0	0	4	0	0	0	14
1992.12.31	28	0	9	0	25	0	9	0	53
1993.12.31	99	5	16	3	78	1	18	0	183
1994.12.31	161	2	32	6	126	2	22	0	291
1995.12.31	176	4	32	10	135	8	26	1	323
1996.12.31	273	6	36	11	241	10	33	3	530
1997.12.31	344	11	39	12	376	14	37	5	745
1998.12.31	436	13	39	13	389	13	41	5	851
1999.12.31	498	13	41	13	425	13	41	6	949
2000.12.31	609	13	42	13	451	15	44	6	1088
2001.12.31	677	13	42	13	451	15	44	6	1156
2002.12.31	745	13	43	13	451	15	44	6	1224
2003.12.31	807	14	44	13	451	15	44	6	1287

Source: Data before 2002 from China Securities and Futures Annual Statistics Yearbook 2002, China Securities Regulatory Committee, Baijia Press, Beijing. Data of 2002 and 2003 from Genius database.

Table 4.2 The Number of Listed Companies in Major International Stock Markets

	Taiwan	New York	Tokyo	South Korea	London	Hong Kong	Thailand	Singapore
1992	256	2089	1651	688	1878	413	320	319
1993	285	2362	1667	693	1927	477	369	338
1994	313	2570	1689	699	2070	529	389	362
1995	347	2675	1714	721	2078	542	416	384
1996	382	2839	1749	741	2136	575	454	402
1997	404	2626	1865	776	2513	658	431	334
1998	437	2669	1890	748	2423	680	418	349
1999	462	2592	1932	712	2791	708	392	317
2000	531	2468	2096	702	2929	790	381	388

Source: Data before 2002 from China Securities and Futures Annual Statistics Yearbook 2002, China Securities Regulatory Committee, Baijia Press, Beijing.

Table 4.3 GDP and Stock Market Value in China

Unit: Billion RMB

	GDP (1)	Total Stock Market Value (2)	Percentage (2)/(1)	Tradable Stock market Value (3)	Percentage (3)/(1)
1992.12.31	2663.81	104.81	3.93 percent	NA	NA
1993.12.31	3463.44	353.10	10.20 percent	NA	NA
1994.12.31	4675.94	369.06	7.89 percent	96.48	2.06 percent
1995.12.31	5847.81	347.400	5.94 percent	93.79	1.60 percent
1996.12.31	6788.46	984.24	14.50 percent	286.70	4.22 percent
1997.12.31	7477.24	1752.92	23.44 percent	520.44	6.96 percent
1998.12.31	7955.28	1950.56	24.52 percent	574.56	7.22 percent
1999.12.31	8205.40	2647.12	31.82 percent	821.40	9.87 percent
2000.12.31	8940.40	4809.09	53.79 percent	1608.75	17.99 percent

Source: Data before 2002 from China Securities and Futures Annual Statistics Yearbook 2002, China Securities Regulatory Committee, Baijia Press, Beijing.

Table 4.4 Statistics of Stock Issued and Capital Raised in China

This table reports the statistics of stock issued and capital raised in China from 1991 to 2000. The data includes the convertible bonds. The foreign exchange rates were: (1) in 1992, 1 U.S. dollar equal to 5.75 RMB, and one Hong Kong dollar equal to 0.74 RMB; (2) in 1993, 1 U.S. dollar equal to 5.80 RMB, and one Hong Kong dollar equal to 0.75 RMB; (3) in 1994, 1 U.S. dollar equal to 8.46 RMB, and one Hong Kong dollar equal to 1.09 RMB; (4) in 1995, 1 U.S. dollar equal to 8.30 RMB, and one Hong Kong dollar equal to 1.07 RMB; (5) in 1996, 1 U.S. dollar equal to 8.30 RMB, and one Hong Kong dollar equal to 1.07 RMB; (6) in 1997, 1 U.S. dollar equal to 8.30 RMB, and one Hong Kong dollar equal to 1.07 RMB; (7) in 1998, 1 U.S. dollar equal to 8.30 RMB, and one Hong Kong dollar equal to 1.07 RMB; (8) in 1998, 1 U.S. dollar equal to 8.28 RMB, and one Hong Kong dollar equal to 1.07 RMB; (9) in 2000, 1 U.S. dollar equal to 8.27 RMB, and one Hong Kong dollar equal to 1.07 RMB.

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Total
Total stock issued(billion share)	0.50	2.08	9.58	9.13	3.16	8.61	26.76	10.56	12.29	51.20	133.87
A share	0.50	1.00	4.26	1.10	0.53	3.83	10.57	8.63	9.81	14.57	54.79
H, N share	N/A	N/A	4.04	6.99	1.54	3.18	13.69	1.29	2.31	0.71	33.73
B share	N/A	1.08	1.28	1.04	1.09	1.61	2.51	0.99	0.18	35.93	45.69
Capital raised from IPO(billion RMB)	0.50	9.41	37.55	32.68	15.03	42.51	129.38	84.15	94.46	210.31	655.97
A share	0.50	5.00	19.48	4.96	2.27	22.45	65.51	44.31	57.26	100.74	322.47
H, N share	N/A	N/A	6.09	18.87	3.15	8.36	36.00	3.80	4.72	56.22	137.20
B share	N/A	4.41	3.81	3.83	3.34	4.72	8.08	2.56	0.38	1.40	32.51
Capital raised from Rights issued of A and B share(billion RMB)	N/A	N/A	8.16	5.02	6.28	6.99	19.80	33.50	32.10	51.95	163.79

Source: Data before 2002 from China Securities and Futures Annual Statistics Yearbook 2002, China Securities Regulatory

Committee, Baijia Press, Beijing.

4.4 Ownership Structure of Listed Companies

For most of listed companies in China, they usually have three groups of shareholders, the state, the legal persons and individual investors, and on average, each group holds about one third share of companies. For shares hold by the former two shareholders, they are not publicly tradable³. For shares hold by individual investors, they are publicly tradable in the two stock exchanges⁴. Figure 4.1 shows ownership structure of a typical listed company in China.

[Figure 4.1 goes about here]

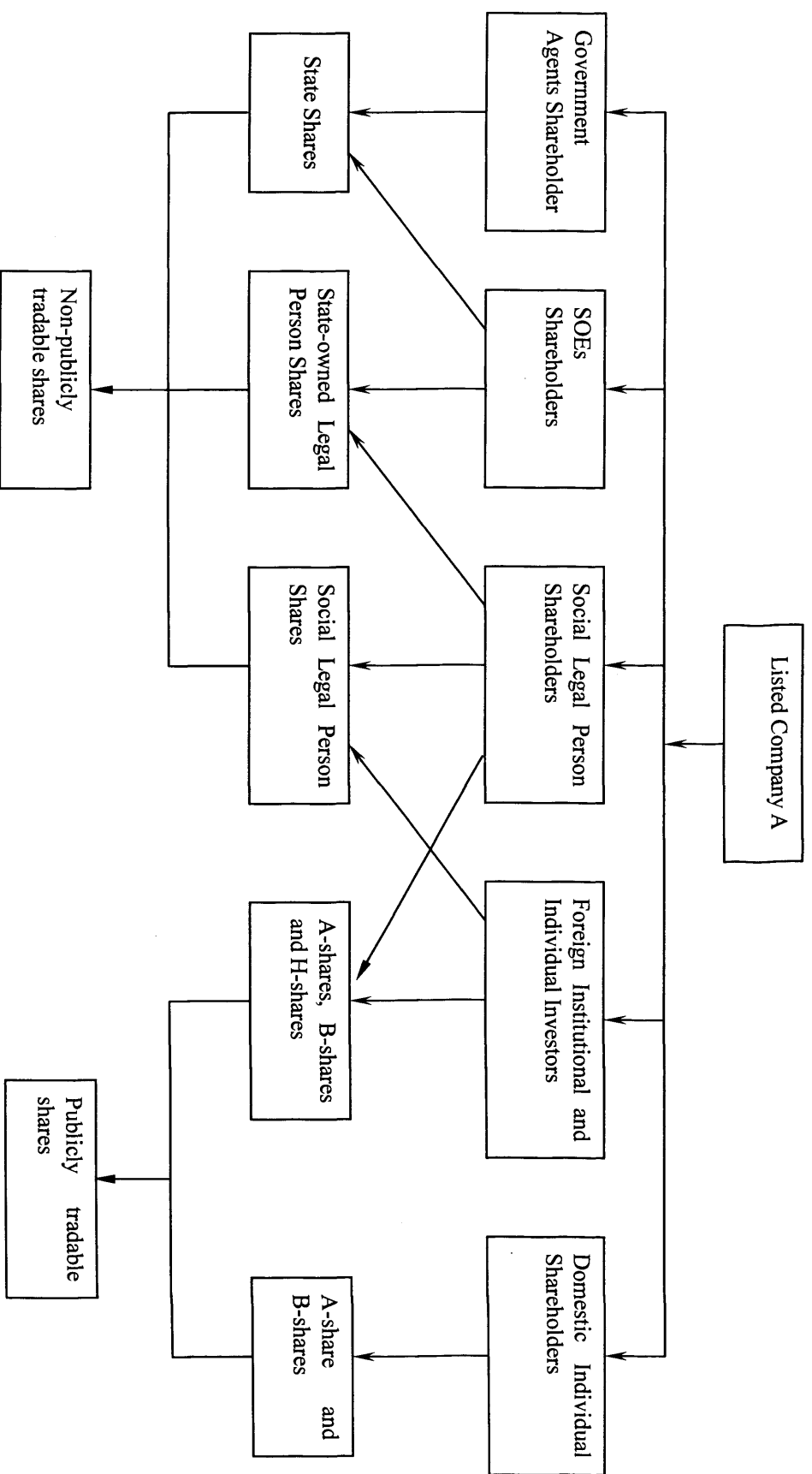
Before 1990s, economy reform in China involves the corporatization of SOEs and the adoption of profit sharing plans, such as the introduction of Contract Responsibility System. While the government gave more autonomy to managers of the corporatized SOEs, it was unwilling to give up ownership rights. Political interference in the running of business was therefore rife and managers' autonomy was emasculated (Firth, Fung and Rui, 2002). As a result, performance of SOEs was under expectation of the government. At the same time, facilities and technology of SOEs were out of date and the government needed great amount of capital to support reforms of SOEs.

In order to address these problems, SOEs were partially privatized and part of shares was sold to the public. Many of these firms were then listed on the Shanghai or Shenzhen stock exchanges from 1990. However, the government and its associated holding institutions generally retain sufficient shares so as to maintain voting control. It is unwillingness of the government to give up the controlling rights that results in non-tradable shares and tradable shares of listed companies in the market.

³ There are some state-owned or no-state-owned legal persons who purchase tradable A shares of listed companies.

⁴ According to Wei (2002), there are now about 9 listed companies in China all of whose shares are tradable shares.

Figure 4.1 Typical Chinese Listed Company Ownership Structure



4.4.1 Non-tradable Shares

Non-tradable shares of listed companies can be classified into two types, state-owned share and social legal person share. Owners of these shares usually were sponsors when enterprises corporatized before IPO. State-owned share can be transferred to non-SOEs or foreign institutions to become social legal person share upon respective approval by China Securities Regulatory Committee (CSRC) and Ministry of Finance (MoF).

4.4.1.1 State-owned Shares

According to the Article 2 of “Provisional Administration Ways for State-owned Shares in Stock Corporations” (PAWSSSC) issued by former National State-owned Assets Administration Bureau and former China Mechanism Reform Commission in November 3, 1994, due to different investment entities and equity management entities, state-owned shares comprise of State Share and State-owned Legal Person Share. The State Shares are those obtained by the government institutions or departments representing the central government when they invest capitals into stock corporations or acquired through legal procedures. The State-owned Legal Person Share is share obtained by state-owned legal person, government affiliated institutions, or other enterprises when they invest their owned legal assets into independent stock corporations or acquired through legal procedures.

4.4.1.2 Social Legal Person Shares⁵

Social legal person shares are those obtained by non-state owned legal persons

⁵ In a study by Wang (2003), he fails to distinguish legal person share to social legal person share. Obviously, the former includes the latter, and it comprises of state-owned legal person share and social legal person share.

through investing their legal capitals into stock corporations or through agreement ownership transfer from other institutions. If they are sponsors of the corporations, their shares cannot be transferred to another entity within three years after IPO. As noted above, if SOEs transfer its state-owned shares to non-SOEs, the state-owned share will change to social legal person share after the ownership transfer. Unlike state-owned shares, transfer of social legal person shares is much easier. It does not need joint approval of MoF and CSRC. Only approval of CSRC is necessary⁶.

4.4.2 Tradable Shares

Tradable shares of listed companies include A share, B share, and H share. A share is issued to Chinese domestic investors traded in RMB on the SHSE and SZSE. B share is issued to foreign investors on the SHSE and SZSE, denominated in US dollars and Hong Kong dollars respectively⁷. H share is issued to foreign investors on the Securities Exchange of Hong Kong (SEHK). Furthermore, some Chinese firms directly go to overseas markets, such as New York, Singapore, and London to raise capital. These shares are sometimes all also called H shares, N share, S share and L share respectively.

4.4.3 Ownership Structure Characteristics

China is a socialist country where the interests of the state are supreme. The

⁶ Under the current policy, it is quite ridiculous that CSRC does not approve transfer of social legal person shares if transferring proportion of the shares is less than 5 percent of total shares of the stock corporation according to "The Notice on Regulating Transferring Activity of Non-tradable Shares of Listed Company" issued by CSRC in October 2001.

⁷ Chinese domestic investors were not allowed to trade B share until February 19, 2001. They can trade B share under certain conditions since then. The B share market was further open after June 1, 2001. However, the state of segmentation markets between A and B share will not end until free exchange of capital item of RMB.

essential goal to establish stock markets is to fund restructurings of SOEs. Unavoidably, most of listed companies in China are state-owned. According to Yuan (1999), the government has more than 10 percent of direct and indirect voting rights in 43.8 percent of the firms. With more than 50 percent voting rights, the government absolutely controls 31.4 percent of the listed companies. Panel A of Table 4.5 shows a highly concentrated ownership structure. The five largest shareholders account for 58.73 percent of the total capital, compared with 24.5 percent in the U.S. and 33.1 percent in Japan (Prowse, 1998). More strikingly, the largest shareholder holds about 43 percent in China. Panel B of Table 4.5 shows that average state shareholding accounts for 34.20 percent of total capital in 2002. Therefore, the state shareholders are more influential than the simple calculations based on their voting rights under the supreme interests of the state.

[Table 4.5 goes about here]

Table 4.6 shows that there is a significant difference in shareholding structures in different industries. As for non-tradable share percentage, the minimum is in forestry industry, about 54.07 percent. The metal and nonmetal industry has the highest non-tradable share percentage of 76.74 percent. As for state owned share, the highest shareholding industry is forestry, and the second is the finance industry.

[Table 4.6 goes about here]

Table 4.5 Shareholding Structures of Chinese listed companies

Panel A: Shareholding Fractions of the Largest 10 Shareholders

This table reports descriptive statistics of shareholding fractions of the top 10 shareholders of listed firms. The data are 1,224 firms in 2002.

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Mean (%)	43.47	8.81	3.40	1.87	1.18	0.79	0.60	0.46	0.38	0.32
Standard deviation (%)	0.50	0.25	0.11	0.06	0.04	0.03	0.02	0.01	0.01	0.01
Median (%)	43.10	5.55	1.95	1.04	0.64	0.44	0.34	0.27	0.22	0.20
Minimum (%)	0.39	0.07	0.06	0.05	0.04	0.03	0.03	0.01	0.02	0.00
Maximum (%)	85.00	69.56	24.75	16.30	11.50	5.51	5.20	4.43	4.28	3.76

Panel B: Average Ownership Structures of Listed Companies from 1992 to 2002 (%)

This table reports descriptive statistics of shareholding fractions of different ownership structure of Chinese listed firms under the category of state, domestic company, foreign company and other ownerships. The data is 53 firms in 1992, 183 firms in 1993, 291 firms in 1994, 323 firms in 1995, 530 firms in 1996, 745 firms in 1997, 851 firms in 1998, 949 firms in 1999, 1088 firms in 2000, 1156 firms in 2001 and 1224 firms in 2002.

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
1. Non-tradable share	69.25	72.18	66.99	64.47	64.75	65.44	65.89	65.02	64.11	64.02	62.47
(1) State Owned Share	41.38	49.06	43.32	38.74	35.42	31.52	34.25	36.16	39.09	35.13	34.20
(2) Domestic legal person owned share	22.56	19.61	21.43	23.23	25.95	29.36	26.93	25.29	22.23	26.39	25.21
(3) Foreign person owned share	4.07	1.05	1.10	1.40	1.23	1.34	1.42	1.31	1.22	1.17	1.97
(4) Inside employee share	1.23	2.40	0.98	0.36	1.20	2.04	2.05	1.19	0.64	0.16	0.08
(5) Other Share	0.00	0.05	0.16	0.74	0.95	1.18	1.25	1.08	0.93	1.17	1.01
2. Tradable Share	30.75	27.82	33.01	35.53	35.25	34.56	34.11	34.98	35.89	35.98	37.53
(1) A share	15.87	15.82	20.99	21.21	21.92	22.79	24.06	26.34	28.57	30.15	32.56
(2) B share	14.88	6.37	6.06	6.66	6.45	6.04	5.30	4.60	4.02	3.78	3.32
(3) H share	0.00	5.63	5.96	7.66	6.88	5.74	4.75	4.03	3.30	2.05	1.65
3. Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: Genius database.

Table 4.6 Shareholding Structures of Chinese listed companies in Different Industries

This table reports average shareholding of different owners of listed companies in different industry in the end of 2002. The data is 1224 firms in 2002. (1) NTS, non-tradable share; (2) SOS, state owned share; (3) SLPS, sponsor legal person share; (4) FLPS, foreign legal person share; (5) ORSOLP, original raising shares owned by legal person; (6) ES, employee share; (6) other, other kinds of shares; and (7) TS, tradable share.

	1、NTS	(1) SOS	(2) SLPS	(3) FLPS	(4) ORSOLP	(5) ES	(6) other	2、TS	(1) A share	(2) B share	(3) H share
Forestry	54.07%	1.36%	23.98%	2.94%	23.76%	0.00%	2.04%	45.93%	27.83%	18.10%	0.00%
Conglomerate	58.67%	11.19%	32.13%	1.42%	10.06%	0.99%	2.89%	41.33%	40.31%	1.03%	0.00%
Agriculture	61.86%	12.70%	25.00%	0.00%	7.73%	0.66%	15.78%	38.14%	38.14%	0.00%	0.00%
Wholesale, retail and trade	62.80%	28.18%	17.63%	0.00%	12.02%	0.24%	4.73%	37.20%	36.07%	1.12%	0.00%
Papermaking and Press	62.88%	23.08%	27.96%	0.53%	1.38%	2.81%	7.12%	37.12%	32.05%	5.08%	0.00%
Finance	63.38%	7.87%	25.99%	0.00%	13.21%	0.00%	16.31%	36.62%	36.62%	0.00%	0.00%
Real estate	64.51%	30.63%	25.20%	1.17%	5.87%	0.09%	1.55%	35.49%	26.86%	8.63%	0.00%
Communication and electronics	64.71%	21.73%	27.58%	3.22%	3.80%	0.15%	8.23%	35.29%	30.52%	3.93%	0.84%
Construction	65.72%	19.70%	30.47%	0.00%	6.36%	0.34%	8.85%	34.28%	31.81%	2.47%	0.00%
Social service	66.31%	12.24%	27.28%	1.44%	9.36%	0.46%	15.52%	33.69%	28.46%	5.24%	0.00%
Machine, equipment and instrument	66.42%	28.06%	26.92%	1.03%	4.11%	0.64%	5.66%	33.58%	24.10%	7.25%	2.23%
Textile	67.48%	16.82%	34.15%	2.79%	4.51%	2.11%	7.09%	32.52%	26.80%	5.72%	0.00%
Petroleum	68.14%	28.49%	30.61%	0.31%	2.76%	0.32%	5.65%	31.86%	22.72%	1.17%	7.97%
Transport and storage	69.63%	22.40%	30.45%	0.65%	4.64%	1.30%	10.18%	30.37%	20.22%	3.63%	6.52%
Rubber and plastics	70.13%	33.73%	23.43%	0.00%	3.63%	2.42%	6.91%	29.87%	23.03%	6.84%	0.00%

Table 4.6 Shareholding Structures of Chinese listed companies in Different Industries (Continued)

	1、NTS	(1) SOS	(2) SLPS	(3) FLPS	(4) ORSOLP	(5) ES	(6) other	2、TS	(1) A share	(2) B share	(3) H share
Other manufacturing	70.24%	24.13%	28.13%	1.96%	6.09%	1.13%	8.79%	29.76%	23.07%	6.69%	0.00%
Food and beverage	71.24%	23.20%	30.70%	2.24%	3.83%	0.34%	10.93%	28.76%	25.17%	1.76%	1.83%
Information technology	72.04%	11.51%	42.40%	1.02%	11.69%	0.00%	5.42%	27.96%	27.96%	0.00%	0.00%
Public utilities	74.84%	31.22%	31.10%	0.29%	7.15%	0.29%	4.79%	25.16%	18.61%	6.54%	0.00%
Metal and nonmetal	76.74%	39.07%	23.81%	1.33%	1.97%	0.39%	10.16%	23.26%	17.73%	1.77%	3.77%
Mining	76.76%	36.30%	28.59%	1.06%	1.26%	0.00%	9.54%	23.24%	13.25%	2.01%	7.99%

Source: Genius database.

4.5 Corporate Governance in China

4.5.1 Concentrated Ownership Structure and State Shareholder

Panel A of Table 4.5 shows that the first biggest shareholder on average holds about 43.47 percent of the share of listed companies at the end of 2002. Panel B shows that the state controls about 34.20 percent of shares, and domestic legal persons hold about 25.21 percent. As noted by Lin et al. (1997), the government is the absolute owner of most of domestic legal persons. According to Xue (2001), there are only 6 percent of listed companies in China without any state interests, which suggests that the state controls most of listed companies in China. Ownership dominated by the state may result in the following problems.

First, there is “super-strong control phenomenon” in corporate governance because the state is the absolute controller of most listed companies (Zhang, 1997; Xue, 2001). As the dominant shareholder, the government impairs rights of other shareholders in arrangement of corporate governance, which contradicts the market-oriented arrangement of corporate governance. As a result, the appointment of directors, managers and supervisory directors is under the influence of the government.

Second, although the state is the absolute controller of most of listed companies, there is “super-weak control phenomenon” in corporate governance because the characteristic of state ownership (Zhang, 1997; Xue, 2001). The principal-agent chain of state owned asset is the government → state owned assets management firms → and listed companies. In fact, listed companies are under the control of the agents, the state owned assets management firms (Yi, 1999). It is very difficult for the firms to care seriously about keeping and increasing value of state owned assets because they do no

hold the absolute ownership of these assets. In other words, there is “absence of principal phenomenon”. As a result, they cannot effectively supervise and encourage directors and managers of listed companies.

4.5.2 The Shareholder Annual Meeting

According to the Corporate Act of 1994, shareholders are entitled to the following comprehensive decision-making powers at the annual general meeting: (1) to make decisions regarding corporate policies on business operation and investment plans; (2) to elect and replace directors and determine their remuneration; (3) to elect and replace supervisory directors and determine their remuneration; (4) to examine and approve reports of BoD and board of supervisory directors; (5) to examine and approve the corporate fiscal financial budget and final account plans; (6) to examine and approve corporate profit distribution and making up of loss plans; (7) to make resolutions on the increase or reduction of the corporation's registered capital; (8) to decide whether to issue corporate bonds; (9) to make decisions regarding corporate mergers, divisions, dissolution, and liquidation; and (10) to amend the corporate constitution.

In China, annual shareholders meeting are usually held after the disclosure of annual reports. The state shareholders always send their representatives to the meeting with all the expenses covered by employers. Individual investors can go only at their own expense. Owing to free-rider problems and opportunistic behavior, small shareholders' participation in the annual shareholder conference is very low. According to an estimate of CSRC (1999), the average number of shareholders attending annual meetings is approximately 100, whereas the number of shareholders of listed companies ranges from 3,000 to 100,000.

In the U.S., more and more institutional shareholders actively attend corporate governance (Wahal, 1996). According to one estimate, institutional investors may now be holding up to 46.5 percent of the outstanding common stock of the U.S. corporations⁸. However, institutional investors, such as mutual funds, are not well developing in China. Currently there are about 50 fund corporations. Total capital of these firms is only about RMB 100 billion. According to prescriptions of CSRC, market capitalization of tradable shares of one listed firms held by a fund cannot exceed 10 percent of net assets of the fund. It is very difficult for a fund to sit on the board like its counterparts in the U.S. Other institutional investors, such as pension funds, insurance companies, are only allowed to directly invest in the stock markets recently. Therefore, large shareholders can completely control the meeting. As Stalin noted, “it is important not how people vote, but who counts the votes”. In China, it is large shareholders who count the votes.

Overall, the quality of the general meeting is unsatisfactory. On the one hand, the shareholder annual meeting cannot really carry out its statutory powers. The Corporate Act of 1994 endows 10 specific functions to the conference. In fact, important decisions, such as determining compensation of directors, corporate merge and acquisition, are in hands of BoD or chairman of board (Wei, 2002). Some firms empower too much to the board and managers, which impairs the decision-making right of minority shareholders. On the other hand, there are lots of restrictions on proposition right of the conference. The Corporate Act of 1994 does not prescribe proposition of shareholders. The “Guidelines of Listed Companies Constitution” requires that shareholders with 5 percent or more have right to propose in the annual conference. It is supposed that legal motions should put in the conference agenda. In fact, if these motions contradict against interest of

⁸ See ‘Small Investors Continue to Give up Control of Stocks,’ The Wall Street Journal, May 11, 1992, C1.

large shareholders, they are very difficult to be adopted by the conference (Zhang, 1998).

4.5.3 The BoD and Independent Directors

According to the Corporate Act of 1994, BoD carries out the following duties: (1) convene shareholder annual general meeting, and report to the meeting; (2) carry out decisions of the shareholder annual general meeting; (3) decide operation plans and investment projects of firms; (4) set annual budget and allocation plans; (5) set profit allocation and loss makeup plans; (6) set plans of increasing or decreasing registry capital and issuing corporate bonds; (7) draw out plans of merge, division and dissolution; (8) decide internal management structure arrangement; (9) hire or fire manager, and according to nomination of managers, hire or fire deputy manager, financial directors and decide their compensation; and (10) decide basic regulations of firms.

Mace (1971) and Jensen (1993) argue that, as a general rule, corporate boards in the U.S. are captured by the management. Under the concentrated ownership structure in China, corporate boards are in the hands of state-owned large shareholders. Unlike two-tier supervisory and management boards in Germany, insider-dominated boards in Japan, and mixed boards in the U.S. (Charkham, 1994), corporate boards in China in essence are one-tier, although all companies have a so-called supervisory board. Therefore, even if shareholders elect the board, directors, who are representatives of large shareholders, do not represent interests of all shareholders. In fact, they only act in large shareholders' interest. Overall, the problems of BoD in China are as follows.

First, as noted above, most of listed companies in China evolved from traditional SOEs, and directors were managers of these SOEs. As a result, there is serious insider control problem (Lin et al. 1997). In practice, it is BoD that is the most powerful body in

corporate governance, which impairs loyalty consciousness and obligation of directors to shareholders. As a result, boards usually dominate the shareholder annual general meeting.

Second, the BoD in China lacks of independence. Due to concentrated ownership, BoD is in hands of large shareholders. Independent directors are new for most listed companies in China. In the U.S., as well as in other developed countries, outside directors play active and decisive roles in the governance of large publicly held corporations. According to a 1999 survey conducted by the Organization for Economic Cooperation and Development (OECD), the average percentage of independent directors on the BoD is 62 percent in the U.S., 34 percent in the U. K., and 29 percent in France. The Corporate Act of 1994 in China has no mandatory requirements for appointing outside directors in large publicly held corporations. Before the new century, most of China companies that appointed independent are limited on those listed on overseas markets, such as New York and Hong Kong. Recently, CSRC (2001) has required listed companies to appoint independent directors. However, according to Wei (2002b), due to limited time available and/or the lack of relevant experience, independent directors are difficult to put forward constructive suggestions. As a result, many independent directors find it difficult to exert any substantial influence, other than symbolic, on the board (Zhang, 1999).

Third, there is serious CEO duality problems in China. As noted by Jensen (1993), the lack of independent leadership makes it extremely difficult for the board to respond early to failure in its top management team. Jensen further points out that when the CEO holds the position of the chairman if internal control systems fail, the board cannot effectively perform its key function. Similarly, Fama and Jensen (1983) argue that

concentration of decision management and decision control in one individual reduces a board's effectiveness in monitoring top management. Zhong (2002) finds that CEOs of 60.9 percent of listed firms in China serve as the board chairman. He documents that CEO duality significantly reduces the independence of boards and increases the discretion of CEOs. CSRC (2001) stated that CEO and chairman should not be the same person in principle in favor of effective monitoring of boards on managers, and if CEO and chairman are the same person, that there is at least half of directors are independent directors⁹. It appears that CEO duality will be detrimental to monitoring of boards and impair the independence of BoD.

4.5.4 The Supervisory Board

Supervisory board is the result of the Corporate Act of 1994 in China. According to the law, supervisors shall perform the following duties: (1) examine corporate financial affairs; (2) supervise directors' and executives' breaches of statutes or corporate constitution in performing their duties; (3) demand that directors and executives redress misconduct damaging the corporate interest; (4) propose special meetings of the shareholders; and (5) other duties as stipulated in the corporate constitution. Supervisors also have the power to audit the BoD's meeting. The board of supervisors includes shareholder representatives and certain employee representatives, with the percentage of representation of each group to be stipulated in the corporate constitution. The employee representatives are elected by the corporate employees in democratic elections. In order to ensure the impartiality of supervisors, the law requires that directors, executives or financial officers may not concurrently serve as supervisors.

From the provisions of the Corporate Act of 1994, the supervisory board in China is

⁹ Interestingly, in corporate governance Standards of Listed Companies (2002), CSRC deleted this article.

similar to that of Germany and Japan. However, the supervisory board is unable to monitor BoD and managers and is generally incapable of identifying and addressing inside corruption (Xue, 2001). Dahya et al. (2004) find that lack of legal power, lack of independence, lack of technical expertise, perceived low status, information shortage, and lack of incentives are the major problems facing Chinese supervisory boards. They argue that the supervisory board in China plays one of four roles: (1) an honoured guest, (2) a friendly advisor, (3) a censored watchdog, or (4) an independent watchdog, in response to both internal and/or external stimuli. The adoption of a particular role by the supervisory board is a function of several factors, including the supervisory board characteristics, power relations between the BoD and the supervisory board, the type of shares being issued, shareholding structure, the influence of the CPC and government, the nature of independent directors and the legal prescriptions.

According to Zhang (1998), the supervisory board is under control of BoD or managers. Therefore, there is unitary corporate governance but not binary corporate governance in China. Compared with that of Germany and Japan, the supervisory board in China is just a “rubber stamp” (Xue, 2001). According to a study by SHSE (1999), supervisory board members are short of independence. Their positions in firms and compensations are subject to inside managers. Under such circumstances, how can they monitor their boss? Furthermore, the quality of supervisors is significantly worse than that of directors. They often do not have necessary law, financial and business management knowledge to carry out their functions.

4.5.5 Managers

According to the Corporate Act of 1994, managers perform the following duties: (1)

control daily operation of firms and carry out decisions of BoD; (2) carry out annual operation plans and investment projects; (3) draw out plans of internal control system; (4) draw out basic regulations; (5) set detail internal rules; (6) nominate to hire or fire deputy managers and financial director; and (7) hire or fire other officers other than appointed by BoD.

As noted above, before the economy reforms began in 1978, there was no incentive scheme to motivate managers nor were managers allowed to share the profit generated by the SOEs. Managers were government officers and their appointments were completely controlled by the state. As noted by Lin et al. (1997), political incentives basically took place of monetary compensation before 1978.

With the economic reforms and development market oriented economy in China, many SOEs are corporatized and issue stock on Shanghai and Shenzhen exchanges. Western compensation arrangements were introduced into listed companies. Jensen and Meckling (1976) argue that agency costs are lower in firms with high managerial ownership stakes because of the better alignment of shareholder and manager goals. Wei (2000) reports an average ownership of 0.014 percent for top management in a sample of 791 China firms in 1998, and finds that 59.12 percent managers have shares of their firms.

While executive stock options are widely used in the West, it is unusual to give such incentives in China where compensation consists mainly of the base wage. However, most of this base wage was not performance related (Chen, 1998). Wei (2000) reports an average total annual cash compensation of U.S. \$6,234 for CEOs in 1998¹⁰. Core,

¹⁰ In China, managerial compensation is a black box before 1998. In 1998, CSRC requires that all listed firms should disclose top executives' compensation in the annual reports.

Holthausen and Larcker (1998) report an average total cash compensation of U.S. \$ 614,860 for chief executive officer (CEO) in a sample of 205 US firms between 1982 and 1984. Zhou (1999) finds average total cash compensation of U.S. \$ 274,000 for CEO in a sample of 365 Canadian firms between 1991 and 1994. Overall, compared with their western counterparts, managers of Chinese listed companies get little cash compensation and stock ownership.

Furthermore, the managerial labour market is not well established in China. Managers are not hired and fired as in the West (Fung et al., 2003). The outside control market, such as mergers and acquisitions, typically does not affect the job security of the managers. Most of managers of listed companies are appointed by large shareholders (Li, 2003). They are seriously less subject to threats from the market than their western counterparts, and their rights are also impaired by influences of large shareholders.

4.6 Principal-Agent Problems in China

In China, most of listed companies are state owned. Thus, this chapter mainly explores the principal-agent problems of such firms.

4.6.1 Who Is the Principal?

According to the Constitution of China, the nominal owner of SOEs is all Chinese, and the State Council carries out the rights of ownership ultimately. Thus the State Council is the ultimate principal for SOEs. However, it does not directly manage the SOEs. It empowers the State-Owned Assets Supervision and Administration Commission

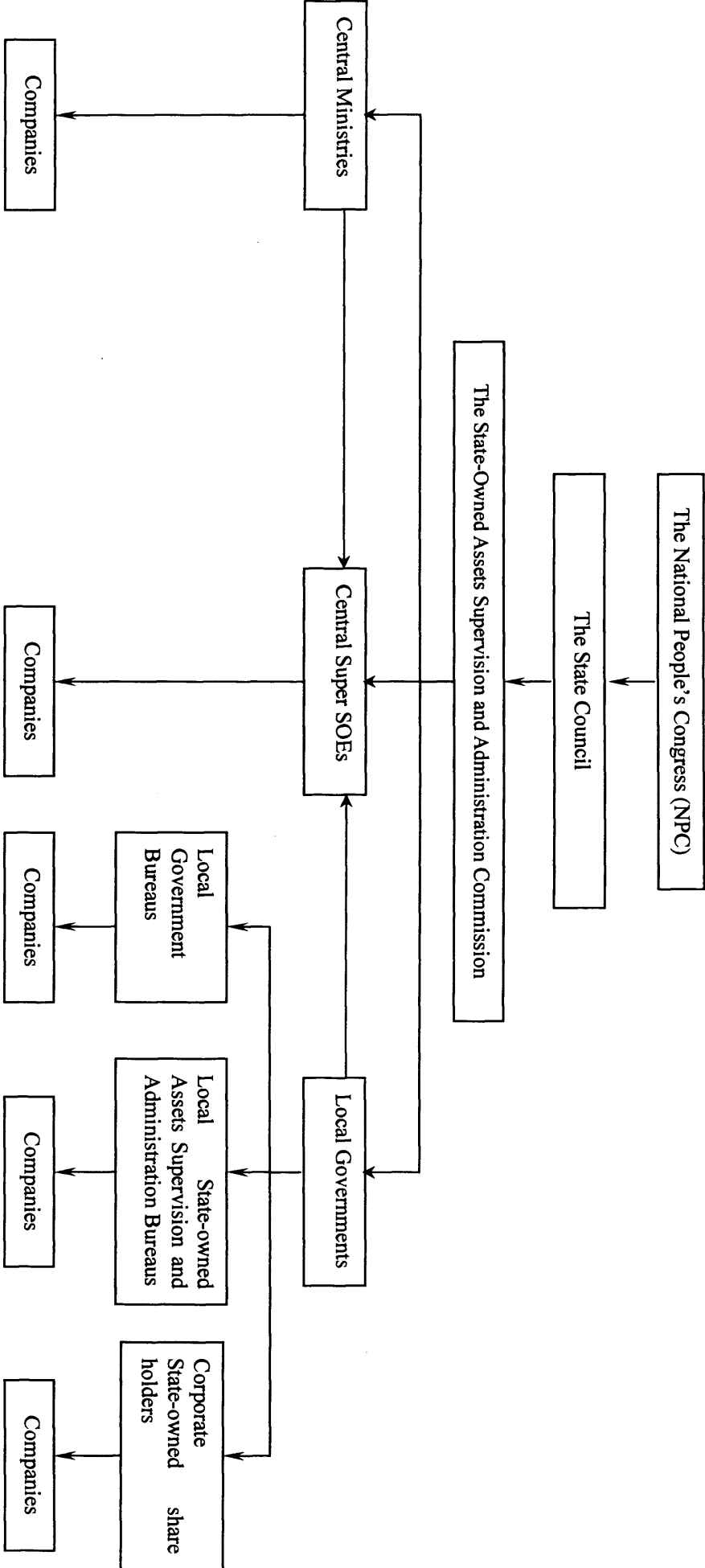
(SASAC) to fulfil the role of monitoring performance of SOEs¹¹.

In practice, it is functional ministries or commissions of the State Council, such as Ministry of Finance, national and local industrial companies, central holding companies, local governments and their affiliated departments, and corporate state-owned share holders that run SOEs. Therefore, there is a multi-layer of principals in China. However, the relationship between the top principal and its subordinate principal is also a principal-agent model in essence. According to the nature of principals, we can classify them into two kinds, government agents shareholders (GAS) and state-owned corporate shareholders (SCS). Figure 4.2 depicts the overall structure of China's state-owned assets management system.

[Figure 4.2 goes about here]

¹¹ Before the recent government reforms in 2001 by former premier, Rongji Zhu, the monitoring role of SOEs was allocated to different ministries, such as former State Planning and Development Commission, State Economy and Trade Commission and Ministry of Finance. SASAC was result of the reform.

Figure 4.2 China State-Owned Assets Management System



While the state gave more autonomy to the managers of the corporatized SOEs, it was unwilling to give up ownership rights. Political interference in the running of business was therefore rife and managers' autonomy was emasculated. Compounding this problem was the low or even zero ownership stakes of managers and so agency problems arising from owner-manager incentive conflicts became more acute (Wei, 2001; Firth et al., 2002).

In order to address the agency problem, SOEs were partially privatized and shares in them were sold to the public. Many of these firms were then listed on the Shanghai or Shenzhen stock exchanges. Note, however, that the state and its associated legal entities often retain sufficient shares so as to maintain voting control (Firth et al., 2002). The government is unwilling to give up the controlling rights. The central dilemma of giving full autonomy to managers while maintaining state control of voting rights still persists at present, albeit to a reduced extent (Qian, 1995; Firth, Fung and Rui, 2002). The retention of a majority or controlling investment stake in partially privatized SOEs distinguishes China from many other transition economies where the state sold or gave up all of its ownership (e.g., Russia and the Czech Republic).

4.6.2 Who Is the Agent?

If government agencies and corporate state-owned institutions are the principals of SOEs to carry out rights of owners, BoD and supervisory board are the first-layer agents appointed by shareholders to direct and monitor operation of companies, and managers are the second-layer agents appointed by the board to run them on a daily basis.

In practice, managers in China generally are directors, who usually dominate the

board like their counterparts in the U.S. (Lin et al., 1997, Shleifer and Vishny, 1997). Furthermore, the role of supervisory board is usually neglected in corporate governance in China (Zhang, 1998). In fact, the supervisory board is under control of managers (Xue, 2001).

As discussed above, currently the appointment, evaluation and dismissal of top managers of large listed SOEs are also made by a central or regional government bureaucracy, and often reflect political priorities of the controlling government. On the other hand, the managerial labor market is not well established in China and managers are not hired and fired as in the West. As noted by Firth et al. (2003), mergers and acquisitions of SOEs typically do not affect the job security of the managers and so the discipline imposed by an active market for corporate control is absent. Mergers and acquisitions are often done with the approval of the central or regional government so as to achieve some socio-political objective or to prop up ailing businesses.

In addition, there is a problem of the chain of the principal-agent relationship as control moves through various layers of bureaucracy. The information asymmetry problem is serious in this series of relationships. It is very difficult for the state, as the ultimate owner, to design an effective incentive scheme to motivate the managers of partially privatized SOEs. Zheng (1998) argues that the lack of a compensation system based on financial performance is a result of the following factors: (1) multiple agency layers in the agency chain; (2) the input of management is not recognized in socialism and therefore a system for rewarding managerial performance is not available; (3) the appointment of a manager is a bureaucratic process; and (4) there is serious information asymmetry and hence it is difficult to measure the performance of managers.

4.6.3 Active Principal and Passive Agent Model: Problems of Large shareholders Expropriation

As noted above, we can classify the principals of SOEs into two kinds, government agents shareholders (GAS) and state-owned corporate shareholders (SCS). GAS includes the ministries, commissions of State Council, local governments and local state-owned assets supervision and administration bureaus or offices. SCS includes national and local industrial companies, central super SOEs or holding companies, local state-owned assets operating firms, and other market-oriented state-owned corporate shareholders¹².

Compared with GAS, state-owned corporate shareholders have less government interference, and their first and foremost objective is to maximize state-owned assets under their management. Therefore, they retain a dominant role in the day-to-day management of their listed companies. This is so-called “super-strong control phenomenon” because the SCS is the absolute controller of the listed companies although they are only agents of superior principals of state-owned assets management.

In the process of corporatization of SOEs, “carving out or spinning-off” rather than “whole listing” approach is usually taken by the authorities and unlisted assets are retained in their parent companies. Top managers and most of directors of these listed companies were from their parents SOEs. Consequently, even if SOEs are listed, only about one third of the ownership is in the hands of individuals. The parent holding body of SOEs – SCS, maintains majority ownership of listed SOEs and plays a direct and

¹² Wang (2003) considers national industrial companies and local state-owned assets operating firms as the government agents shareholders (GAS). Although the appointment, evaluation and dismissal of top managers of these companies are still in hands of the government, their first objective is maximization of assets under their run rather than social welfare maximization according to the State-owned Assets Management and Supervision Regulations issued by the State Council in 1994. According to the political perspective (Williamson, 1985), we call them quasi-government agent firms in appearance because they are controlled by the government, but they are market-oriented corporations in essence.

active role in controlling their activities and consequently may misappropriate assets from their listed subsidiaries (Li, 2001; Wei, 2002).

According to Wei (2002), there are four popular means that are commonly used by SCS to expropriate listed firms. The first approach is direct appropriation. The largest shareholders usually “withdraw” money from firms without payback. When Shanjiou Pharmaceutical (000999, Shenzhen Stock Exchange, SZSE) painstakingly finished its IPO in the end of 1999 and excitedly raised about 2.2 billion RMB (about 0.27 billion US dollar), its first shareholder, Shanjiou Group, took about 2.1 billion RMB from it in 2000. Other similar victims include Donghai Gufen (000613, SZSE), Qinqi Motorcycle (600698, SHSE), KMK Co. (000535, SZSE), and Lengguang Industrial (600629, SHSE). The second approach is that a listed company guarantees debt for its parent shareholder. The classical case is BaiYunShan Pharmaceutical (000522, SZSE). The third approach is through related-party transactions by which a control shareholder overcharges (undercharges) its listed company by selling (purchasing) goods. The classical cases are Dong Guan Winnerway (000573, SZSE) and Macro Co. (000533, SZSE). The fourth approach is fraudulent investment, which means a parent shareholder deceitfully does not pay full contribution to its share of capital, or pays full contribution first and withdraws majority of its investment later through many excuses. The famous victim is Shanghai Commercial (600833, SHSE)¹³.

Therefore, in the active principal and passive agent model, large corporate SOE shareholders dominate BoD. They usually send their representatives to sit on the board. While independent directors appear to be independent, the composition of boards experiences some change. It has been expected that they would mitigate effects of large

¹³ Details about the cases mentioned in this section can refer to Wei (2002).

shareholders and alleviate agency problems. However, several studies document that most of independent directors were appointed by large corporate SOEs shareholders (e.g., Xue, 2001, Li, 2003). Thus, the effectiveness of monitoring by independent directors and their effects on corporate performance in China cannot be unambiguously determined ex ante.

4.6.4 Active Agent and Passive Principal Model: Problems of Insiders Control

As discussed above, when government agents are large shareholders of listed companies, inside managers usually dominate BoD and effectively control the firms. This is so-called “super-weak control phenomenon” or “absence of principal” in China because passive principal—government agents—cannot monitor active agents, inside managers.

Government shareholders are generally argued to be less efficient than private shareholders to monitor managers (Qian, 1995). On the one hand, as noted above, it is very difficult or impossible to identify who the principal or residual risk bearer is when a government agent is a large shareholder. In theory, the whole Chinese owns the shares of state-owned listed companies. But there is no principal because there is no way for the whole population to act as a principal. In practice, the State Council is the ultimate principal. Whether should the Premier be the top principal to monitor the managers of state-owned listed companies, or should governors of local governments or Chairman of State-owned Assets Supervision and Administration Commission be responsible for supervising the managers? It is impossible. Therefore, it is “the absence of principal” that



causes the problem of “insider control” in China.

On the other hand, unlike government shareholders, state-owned corporate shareholders bear the obligation to maximize state-owned assets under their management. The government tends to emphasize political objectives and/or social welfare objectives rather than economic efficiency. Profit maximization is not always a key objective for the government as an owner and investor in state-owned listed companies. Shleifer and Vishny (1994) argue that the inefficiency of government owned firms is due to the imposition by politicians of objectives other than profit maximization. Williamson (1985) argues that state ownership could be preferable for a social welfare maximizing government because the government could impose socially desirable objectives. However, social welfare maximization is usually at the expense of shareholders’ interests. In addition, governments do not always keep social welfare as a priority and thus the advantage of state ownership would disappear (Sappington and Stiglitz, 1987). The interests of individual politicians would also distort the role of governments even if they were social welfare maximizers. Shleifer and Vishny (1994) argue that individual politicians have their own goals, such as maximizing their political base. Therefore, politicians may deliberately transfer firms to their political supports through the control rights of state-owned shares.

The agency theory and the corporate governance literature identify and propose an array of devices to protect investors from the self-interested motivations of managers and insiders control. High managerial ownership has been advocated as a way to reduce agency costs caused by insider control problems (Jensen and Meckling 1976). According to Wei (2000) and Wei (2002), in China, the impact of managerial ownership is

somewhat moot as the shareholdings of directors and CEOs are minute both in relative and absolute terms.

There is an extensive literature that advocates the important role that institutional investors can play in monitoring the actions of management (e.g., Shleifer and Vishny 1986, 1997; Agrawal and Mandelker 1990). As noted above, China does not have extensive institutional investors of the type seen in the U.S. In addition, at present, foreign investors can buy B shares, and H shares of listed companies and purchase non-tradable shares including state-owned share upon approval of the CSRC, Ministry of Finance (MoF) and Ministry of Commerce (MoC) in different situations¹⁴. As qualified foreign institutional investor (QFII), foreign financial institutions can directly buy A shares upon approval of the CSRC from 2003. However, foreign investors still only have a very small stake in Chinese listed firms. According to Wei et al. (2003), on average, foreign shareholders have 1.30 percent of listed companies' equity in 2002 and they do not have much incentive to monitor inside managers. On the other hand, geographical distance and ignorance of local conditions may make foreign shareholders less influential in monitoring management and thus reducing agency costs (Boardman et al. 1994).

Owing to free-rider problems and opportunistic behaviour, individual shareholders have neither incentive nor capability to participate corporate governance or effectively monitor inside managers (Xu and Wang, 1999). For example, according to an estimate of the CSRC (1999), the average number of shareholders attending annual conferences is approximately 100, whereas the number of shareholders of listed companies ranges from 3,000 to 100,000.

¹⁴ Regulations about the conditions of transferring non-tradable shares to foreign institutions are jointly issued by CSRC, MoF and MoB in November 2002.

Other corporate governance mechanisms in China, such as BoD, supervisory board and external control market, usually fail to effectively monitor active managers when government agents are large shareholders (zhang, 1998,1999; Li, 2002; Wei, 2002). As noted by Broadman (1999), many Chinese enterprises are still working in a corporate governance vacuum and insiders have virtually unbridled control over them.

Shleifer and Vishny (1997) suggest that the expropriation of shareholders by managers can occur in many ways, including the building of personal “empires”, enjoying perks, stealing and transferring money from the firm, conducting insider trading, making inappropriate investments due to management incompetence, and entrenchment. Another abuse that is prevalent in emerging economies is the use of unfavorable related party transactions where, for example, assets may be sold cheaply to, or bought expensively from, private firms owned by the managers.

In China, there are a number of notorious cases of managers misappropriation and expropriation, such as Xinjiang Hops (600090, SHSE), whose former chairman, Mr. Aike Lamu, obtained US\$ 0.22 billion loan guaranteed by firm and successfully evaporated from the Earth, Hongfeng Industrial (000594, SZSE), whose former chairman, Mr. Jianhua Gao, borrowed about US\$51 million from it and never paid back, former Kansai Group (600745, SHSE, now Tianhua Co.), whose former chairman Sijian Tong borrowed about US\$ 2.5 million to buy this firm’s shares and misappropriated the principal and earnings, and former Chengcheng Culture (600681, SHSE, now Yueyuan Development) whose former chairman Mr. Bo Liu, used capital of the firm to invest in Japan and transferred to his own account, and now successfully ran away to Japan. Surprisingly, most of these firms’ large shareholders are government agents.

Compared with dominant control of large SOE shareholders, inside managers control is more serious in principal-agent model when government agents are large shareholders (Qian, 1995, 1996; Zhang, 1999). As noted above, current corporate governance mechanisms in China cannot effectively monitor and restrict managers under the active agent and passive principal model. Therefore, the appointment of independent directors has given public expectation in alleviating dominant effects of managers on board.

4.7 Summary

This chapter discusses institutional background in China. During the short 15 years, China securities market has made a great progress. From the number of listed companies, and total market value, the securities market in China is becoming an oriental giant.

In China, due to complex ownership structure of companies, there is a chain of principal-agent relation. There are two serious agency problems in state-owned listed companies. The first is the so-called “super-strong control phenomenon” which means the existence of an active principal and passive agent that results in problems of large shareholders expropriation. The second is the so-called “super-weak control phenomenon” which means the existence of active agent and passive principal that results in problems of insider control.

Chapter 5 Testable Hypotheses and Variables Measurement

5.1 Introduction

The previous chapters examined the theoretical and institutional background upon which this dissertation is based. This chapter presents testable hypotheses and defines variables. Much emphasis will be given to justify the hypotheses. In particular, the agency theory model will be used as a major basis for the justification. At the same time, however, some other models, such as the resource dependence model is also used to supplement agency theory.

As mentioned in Chapter 3, the effects of the four attributes of BoD (composition, structure, characteristics and process) on the corporate performance will be tested. Therefore, the testable hypotheses mainly reflect these effects. Further, this section also attempts to test two principal-agents models discussed in last Chapter. The hypotheses and variables in this chapter are basis of empirical tests of next two chapters.

5.2 Testable Hypotheses

5.2.1 The Proportion of Directors and Corporate Performance

Baysinger and Butler (1985) argue that within the context of the numerous corporate governance mechanisms, BoD is properly viewed as the solution to the problematic aspects of a particular set of manager-shareholder interactions. The BoD, with its legal authority to hire, fire, and reward top managers, protects shareholders' wealth and, thus, is an important element of corporate governance (Williamson, 1984). To protect shareholders' interests, the board can either directly control the managers' behaviour or

entice the managers to act in the interests of shareholders with financial incentive schemes, or both (Hoskisson et al., 1994). To achieve the monitoring objective, the BoD must be independent and objective (Fama and Jensen, 1983). The standard view in agency theory is that the degree of board independence is closely related to its composition (John and Senbet, 1998).

In addition, agency theory suggests that independent directors would be motivated to monitor the management because they have incentives to develop reputations in decision control (Fama and Jensen, 1983). The other advantages of having more independent directors on board include increasing directors' objectivity in evaluating managerial performance, multiple perspectives regarding the firm's strategic affairs, and more power in protecting shareholders' interests (Pearce and Zahra, 1991; Zahra and Pearce, 1989). Based on these arguments, agency theory highlights a positive effect of greater proportion of outside directors on corporate performance. Also, as noted in Chapter 2, resource dependence theory argues that independent directors will help firms access to critical resources through their external relationships.

Baysinger and Butler (1985) attempt to examine whether firms with more independent board perform better or changes in board composition toward greater independence improve performance. The authors find that board independence measured in 1970 had a positive and significant correlation with the relative financial performance measured in 1980. Barmhart, Marr and Rosenstein (1994) also find that the proportion of independent directors is significantly related to corporate overall performance. Millstein and MacAvoy (1998) report that there is a substantial and statistically significant correlation between an active, independent board and superior corporate performance.

Interestingly, Lasfer (2002) reports that high growth firms are more likely to adopt the Cadbury recommendations and they have a higher proportion of non-executive directors and a lower number of executive directors than low growth firms.

In China, independent directors are new to themselves and also to companies. According to reputation hypothesis of Fama and Jensen (1983), independent directors may be motivated by the concern for personal reputation. They may also serve as liaison persons for the company with other stakeholders. More importantly, according to the agency theory, the company is less likely to suffer loss from the collusion between the managers and the independent directors who come from different external agencies, and independent directors will help companies obtain critical resources, such as capital and technology, according to the resource dependence model. Therefore, the following hypothesis is formulated:

Hypothesis 1a: Ceteris paribus, the proportion of independent directors on the board is positively related to the performance of Chinese listed companies.

As argued by Byrd and Hickman (1992), a board with more affiliated directors would be less independent. Although these affiliated directors are not on the payroll of the shareholding company, they work in the same enterprise with most or even all of the top managers of the shareholding company. Agency theory suggests that such common background increase the possibility that affiliated directors would collude with the top management at the expense of shareholders (Williamson, 1984). An affiliated director-dominant board, just like an insider-dominant board, can hardly be independent from the management and objective in judging the managers' performance.

According to agency theory, the affiliated directors are more likely to be

manipulated by the self-serving managers with various entrenchment practices (Walsh and Seward, 1990). This view also suggests that the affiliated directors themselves are self-serving agents. The close social ties between the affiliated directors and the managers imply that the two parties may easily collaborate to pursue personal goals at the expense of the organizational goals. Therefore, according to agency theory, the following hypothesis is proposed:

Hypothesis 1b: *Ceteris paribus, there is no significantly positive relationship between the proportion of affiliated directors on the board and the performance of Chinese listed companies.*

5.2.2 Board Size and Corporate Performance

According to the Corporate Act of 1993 in China, the number of directors should be between 5 and 19. However, there is little empirical evidence there is any effect of board size on Chinese listed companies. Eisenberg, Sundgren and Wells (1998) argue that as board size increases, problems of communication, process, decision making and coordination will increase, and ability of the board to control management will decrease, thereby leading to agency problems. Lipton and Lorsch (1992, p65) state that ‘... the norms of behaviour in most boardrooms are dysfunctional’, because directors rarely criticize the policies of top managers or hold candid discussion about corporate performance. Believing that these problems increase with the number of directors, Lipton and Lorsch recommend limiting the membership of boards to ten people, with a preferred size of eight or nine.

Agency theory argues that the great emphasis on politeness and courtesy is at the

expense of truth and frankness in boardrooms and that when boards get beyond seven or eight people they are less likely to function effectively and are easier for CEO to control (Jensen, 1993). Some evidence shows that reducing board size has become a priority for institutional investors, dissident directors, and corporate raiders seeking to improve troubled companies. Kini et al. (1995) present evidence that board size shrinks after successful tender offers for under-performing firms. At American Express, the outside directors who in 1993 organized the removal of the company's CEO cited the 'unwieldy' 19-person board as an obstacle to change, stating that the 'size of the board does make a difference', according to Monks and Minow (1995). Small boards have emerged recently during overhauls of corporate governance at such prominent companies as General Motors, IBM, Occident Petroleum, and Scott Paper. Institutional investors pressure reportedly contributed to many of these changes, such as the 1995 reduction in Grace's board from 22 directors to 12.

Yermack (1996) reports a negative relationship between firm performance and board size. Similarly, Eisenberg, Sundgren, and Wells (1998) find that there is a significant negative correlation between board size and profitability. Thus, the following hypothesis is developed:

H2: Ceteris paribus, the board size is likely to be negatively related to the performance of Chinese listed companies.

5.2.3 Incentives of Directors and Corporate Performance

As noted above, the primary responsibility of BoD is to engage, monitor, and when necessary, replace unqualified company management. The central criticism of many

public company boards has been targeted at their failure to engage in the kind of active, effective and efficient management oversight that results in better corporate performance. Agency theory suggests that substantial equity ownership by independent directors creates a personally-based incentive to actively monitor. Bhagat et al. (1999) argue that to increase monitoring effectiveness of independent directors, they must become a shareholder.

Recently, institutional shareholders and other corporate governance reformers have suggested that directors should be compensated using some type of equity-based incentives arrangement to make independent directors “think like shareholders” (Linden, Lenzner, and Wolfe, 1995; NACD, 1995; Dunlap, 1997). As noted by Vance (1983) and Geneen (1984), by providing independent directors with a financial stake in the performance of the firm through incentive-based compensation, firms can align the interests of independent directors and shareholders.

Kesner (1987) and Bhagat et al. (1999) report that there is a positive relationship between corporate performance and stock ownership of independent directors. Brick, Palmon and Wald (2002) argue that the level of independent director cash compensation and the fraction of non-cash in the director compensation mix would be positively related to the need for firm monitoring and the difficulty of the directors’ tasks. Dunlap (1997) and Mehran (1994) find that there is positive correlation between corporate performance and cash compensation level of independent directors.

Based on the above arguments and findings, the following hypothesis is developed:

Hypothesis 3: Ceteris paribus, there is a positive relationship between the proportion of stock ownership and cash compensation of independent directors and

corporate performance.

5.2.4 Characteristics of Independent Directors and Corporate Performance

As noted in Chapter 3, characteristics of board consist of two components. The first is directors' background, which reflects age, gender, educational background, family background, demography, occupation, tenure, values, and experiences of directors and managers. The second component refers to those qualities that transcend directors' individual or collective characteristics and reflect the 'personality' of the board. According to resource dependence theory, the independent directors can employ their professional network to facilitate access to resources critical to the firm's success.

Norburn (1986) finds that directors in growth industries are characterized by nine different factors, such as short tenure with their firms, disposition to use participative decision styles, high international exposure, early retirement, younger age, an low first boss influence. In turbulent industries, directors exhibit a different profile. They are marketing oriented, value career mobility rather than loyalty to a certain company, have little international exposure, and are people-oriented in their managerial styles and very early retirement. Kesner (1988) shows strong evidence to suggest that the characteristics, such as occupation, type, tenure, and gender, of board committees, the audit, nominating, compensation, and executive, do differ in rather significant ways from that of corporate boards in general.

Bilimoria and Piderit (1994) report that after experienced characteristics are controlled, male directors have a higher likelihood of being compensation committee

membership than female directors. Chtourou et al. (2001) report that average tenure on the company board for non-executive directors and the average number of directorships they hold in unaffiliated firms are negatively associated with the level of earnings management.

Based on above results, the following hypothesis is proposed:

H4: Ceteris paribus, characteristics of independent directors, such as educational background and primary occupation, have significant positive effects on corporate performance.

5.2.5 CEO Duality and Corporate Performance

Board leadership structure or CEO duality is another important board attribute that has often been linked to organizational performance (Dalton et al., 1998). Agency theory suggests that the lack of independent leadership makes it extremely difficult for the board to respond early to failure in its top management team (Jensen, 1993). When the CEO holds the position of the chairman if the board chairman, internal control systems fail, as the board cannot effectively perform its key function. In addition, this theory argues that concentration of decision management and decision control in one individual reduces a board's effectiveness in monitoring top management (Fama and Jensen, 1983). Therefore, it is proposed that the separation of CEO and board chairman position would help improve firm performance.

Rechner and Dalton (1991) report a significant difference between CEO duality firms and those with independent board leadership along corporate performance measures, such as return on equity and return on investment. More specifically, they find that firms

opting for independent leadership consistently outperformed those relying upon CEO duality. Goyal and Park (2002) find that CEO turnover is significantly less sensitive to firm performance in firms with combined titles than in firms with separate titles. Overall, their findings suggest that boards are less effective in making effective CEO replacement decisions when the CEO also holds the position of chairman.

The phenomenon of CEO duality is common in Chinese listed companies (Zhang, 1999). CEO duality is generally seen as a barrier to effective corporate governance by Chinese policy makers and researchers, but the efforts in correcting this situation, if any, have been limited. Hence, the following hypothesis is formulated:

Hypothesis 5: Ceteris paribus, CEO duality is likely to be negatively related to the performance of Chinese listed companies.

5.2.6 Multiple directorships and Corporate Performance

Agency theory argues that multiple board appointments can signal director quality (Fama and Jensen, 1983). The appointment to numerous boards might be the result of the superior performance enjoyed earlier by the firm for which the individual serves as a director or as an executive. Following this argument, Gilson (1990), Kaplan and Reishus (1990), and Vafeas (1999) suggest that the number of directorships held by a director might proxy for reputational capital, with such individuals viewed as high quality directors. Miwa and Ramseyer (2000) find that the presence of directors holding multiple directorships was strongly related to firm performance in the cotton spinning industry in Japan. Cotter et al. (1997) document that shareholders receive larger premiums in tender offers when the board includes multiple directorships. Finally, Brown and Maloney (1999)

find that firms enjoy superior returns from acquisitions when they have directors who hold multiple directorships.

However, recent discussion on corporate governance reforms suggests that outside directors may become less effective as they serve on ‘too many’ boards to attend to their duties adequately. Institutional investors and shareholders activists criticize firms for appointing directors who hold directorships in multiple companies, contending that such directors are incapable of effectively monitoring the management of so many firms (Ferris et al., Forthcoming). The Council of Institutional Investors (1998) argues that in the absence of unusual and highly specific circumstances, directors with full-time jobs should not serve on more than two other boards. The National Association of Corporate Directors (1996) is more lenient, suggesting that directors with full-time positions should not serve on more than three or four other boards.

Shivdasani and Yermack (1999) suggest that directors can become over-committed when serving on multiple boards, rendering them unable to provide meaningful managerial monitoring. Core et al. (1999) report that the presence of directors holding multiple appointments correlates with excess CEO compensation, implying that such directors serve as an inadequate check on management. Shivdasani and Yermack (1999) also provide evidence that questions the independence of directors who hold multiple appointments. They report that directors with multiple directorships are more likely to be chosen for an additional board seat if the CEO of the firm is involved in the director selection process. This evidence suggests that directors holding multiple appointments cater to CEOs, implying that their monitoring of management does little to reduce agency costs.

The CSRC also limits multiple directorships. According to the guidance of CSRC (2001), one person can only take five independent directorships in Chinese listed companies. Therefore, the following hypothesis is advanced:

Hypothesis 6: Ceteris paribus, multiple directorships are negatively related to the performance of Chinese listed companies.

5.2.7 Frequency of Board Meetings and Corporate Performance

Weisbach (1988), Byrd and Hickman (1992), Brickley et al. (1994), Borokhovich et al. (1996) and Cotter et al. (1997) document the monitoring role of independent directors. According to agency theory, if higher board activity facilitates better board monitoring, independent directors are likely to demand more board meetings to enhance their ability to monitor management. Simultaneously, in boards with more outsider participation, more time is likely to be spent in briefing board members than would be required in boards with high insider membership. There thus should be a positive relation between the representation of independent directors on the board and the level of board activity.

Lipton and Lorsch (1992) suggest that the most widely shared problem that independent directors face is the lack of time to carry out their duties. Similarly, Conger et al. (1998) suggest that board meeting time is an important resource in improving the effectiveness of a board. This view is reinforced by recent criticisms, in both the financial and academic press, of directors who spread their time too thin by taking on too many outside directorships, confounding their ability to attend meetings regularly and, therefore, to monitor management well (e.g., Byrne, 1996; NACD, 1996). A clear implication of these studies is that directors that meet more frequently are more likely to perform their

duties in accordance with shareholders' interests.

Vafeas (1999) finds that operating performance improves following years of abnormally high meeting frequency. Xie et al. (2001) report that there is significantly negative correlation between the number of board meetings and discretionary accruals, which suggests that an active board may be a better monitor than an inactive board thereby leading to better corporate performance. Thus, based on above arguments and findings, the following hypothesis is proposed:

Hypothesis 7: Ceteris paribus, the frequency of board meetings is positively related to the performance of Chinese listed companies.

5.2.8 Active Agent VS. Passive Principals and Corporate Performance

When government agents are large shareholders of listed companies, inside managers usually dominate BoD and effectively control the firms. This is the active agent vs. passive principals model discussed in Chapter 4.

Agency theory postulates that ownership structure should not matter if complete contracts can be written and enforced (Coase, 1960; Williamson, 1985). In the presence of incomplete contracts, however, the different objectives of the owners result in different managerial roles and thus have different effects on corporate performance. Government shareholders are generally argued to be less efficient than private shareholders to monitor managers.

The government tends to emphasize political objectives rather than economic efficiency. Profit maximization is not always a key objective for the government as an

owner and investor in state-owned listed companies. Shleifer and Vishny (1994) argue that the inefficiency of government owned firms is due to the imposition by politicians of objectives other than profit maximization. Williamson (1985) argues that state ownership could be preferable for a social welfare maximizing government because the government could impose socially desirable objectives. However, social welfare maximization is usually at the expense of shareholders' interests. In addition, governments do not always keep social welfare as a priority and thus the advantage of state ownership would disappear (Sappington and Stiglitz, 1987). Shleifer and Vishny (1994) argue that individual politicians have their own goals, such as maximizing their political base. Therefore, politicians may deliberately transfer firms to their political supports through the control rights of state-owned shares.

Xue (2001), Wei (2002) and Wang (2003) find that firms with government-agent shareholders perform significantly worse than other types of firms. Xu and Wang (1999) find that there is negatively correlation between the fraction of state shares and firms' profitability. Firth et al. (2004) also find that government share ownership has no effects on agency costs. Therefore, the following hypothesis is advanced:

Hypothesis 8: Ceteris paribus, the higher the proportion of directors appointed by government agents shareholders, the worse the company performance.

5.2.9 Active principal VS. Passive Agents and Corporate Performance

As noted in Chapter 4, when state-owned corporate shareholders are large shareholders of listed companies, they usually dominate companies' operations through

their appointed directors and managers. This indicates the active principal and passive agents model.

Compared with government-agent shareholders, state-owned corporate shareholders have less government interference, and their first and foremost objective is to maximize state-owned assets under their run, although they often misappropriate companies assets through their dominant roles. Wang (2003) documents that there is no significant difference in performance between firms with state-owned corporate shareholders and firms without state-owned shares. Xu and Wang (1999), Xue (2001) and Wei (2002) find that firms' profitability is positively correlated with the fraction of state owned legal person shares. Therefore, the following hypothesis is proposed:

Hypothesis 9: Ceteris paribus, the higher the proportion of directors appointed by state-owned corporate shareholders, the better the company performance.

5.2.10 Market Reaction to the Appointment of Independent Directors

Agency theory suggests that the composition of individuals who serve on the BoD is an important factor in creating a board that is an effective monitor of management actions (Fama, 1980; Fama and Jensen, 1983). While noting the importance of having both inside and outside members on the board, it suggests out that board's effectiveness in monitoring management is a function of the mix of insiders and outsiders who serve.

Fama (1980) argues that the viability of the board as an internal control mechanism is enhanced by the inclusion or new appointment of independent directors because independent directors have incentive to develop reputations as experts in decision making

because the external market for their services prices them according to their performance as independent directors. He points out that most independent directors of corporations are either managers or important decisions agents in other corporations. The value of their human capital depends primarily on their performance as internal decisions managers in other organizations.

As noted in Chapter 2, resource dependence theory argues that inclusion of new independent directors to the board could be beneficial for a number of reasons. They can bring a fresh and dynamic impetus to the operation of the firm. Extensive experience and knowledge can also be introduced. Furthermore, because of their prestige in their profession and communities, independent directors are able to extract resources for successful company operations.

After recent foreign financial scandals of U.S. companies, such as Enron, Global Crossing, WorldCom and Xerox, domestic scandals, such as LanTian Co., HongGuang Co., and Tong Hai Co., and notorious home cases of unscrupulous expropriation by large shareholders against minority shareholders, such as Shang Qiu Co., Monkey King Co., and Da Qing Lian Yi Co., there are growing concerns about the reform of corporate governance to improve monitoring effectiveness of BoD in China. The CSRC required that all listed companies in China appoint at least two independent directors before 30 June 2002, and that one third of directors of board be independent directors before 30 June 2003.

Since the potential contribution of an individual member to the board cannot be observed directly, the performance of a firm's share price could be used as an indirect measure of the information contained in the appointment of independent directors.

Rosenstein and Wyatt (1990) report a significantly positive market reaction to appointment of independent directors. Fox and Opong (1999) find small but statistically significant positive abnormal returns on the day of announcements of new appointments of independent directors as well as on the day subsequent to the public announcement of the appointment. Therefore, this study empirically test the following hypothesis:

H10: Ceteris paribus, there is a positive market reaction to the appointment of independent directors of Chinese listed companies.

5.3 How to Measure Corporate Performance?

5.3.1 Specific Performance Measures

As showed in the Chapter 3, prior studies use both stock market-based ratios and accounting-based ratios as measures of corporate performance in examining correlation between BoD and corporate performance. Although studies by Baysinger and Butler (1985), Rosenstein and Wyatt (1990), Barmhart, Marr and Rosenstein (1994), Barmhart, Marr and Rosenstein (1994), Lee et al. (1992), Brickley et al. (1994), Rosenstein and Wyatt (1997), Fox and Opong (1999), and Lasfer (2002)¹⁵ measure corporate performance using stock market-based ratios, such as stock returns, market-to-book value, market value added, and Tobin's Q, and find that BoD is significantly related to market performance, it is not clear whether market performance measures are more informative than accounting performance in measuring effects of BoD.

Kaplan (1994) suggests that market performance also reflects changes in discount rates and therefore accounting performances may be more informative. The empirical

¹⁵ Some of authors use both market-based ratios and accounting-based ratios in their studies (such as Baysinger and Butler, 1985; Lee et al., 1992; Fox and Opong, 1999; and Lasfer, 2002).

evidence is ambiguous on this issue. While Baysinger and Butler (1985), Baber et al. (1996), Millstein and MacAvoy (1998), FÜRST and Kang (2000), and Dehaene et al. (2001) find a significantly positive relation between BoD and accounting-based measures, Weisbach (1988), Fosberg (1989), Bhagat and Black (1999), Coles, McWilliams, and Sen (2001), and Postma et al. (2002) find only a modest relation or not significant correlation. To ensure the robustness of the results, six different measures of firm performance are employed: market-to-book value, market-to-sales, return on asset, return on equity, profit margin, and sales to asset.

As noted by Bhagat and Black (2000), stock price returns must be used with caution as a performance measure because they are susceptible to investor anticipation. If investors fully anticipate the effects of board composition on performance, stock returns will be insignificant, even if a significant correlation between performance and BoD exists in fact. For this reason, this study does not use stock returns directly to examine effects of BoD on corporate performance. Instead, it analyses the market reactions to the appointment of independent directors of Chinese listed companies.

The first measure of firm performance is market-to-book value of common equity (MBV) defined as market value of equity plus book value of debt over book value of equity. Because about two-thirds of shares of Chinese listed companies are not publicly tradable, the market value of equity of a firm is equal to sum of market value of tradable shares and the product of non-tradable shares and net assets per share¹⁶. Although other

¹⁶ As noted in Chapter 4, on average non-tradable shares in China accounts for two thirds of total share of listed companies. In theory, when we value such block share we should consider two other important factors other than net assets per share. The first is control premium. According to Shleifer and Vishny (1997), there are many benefits as control shareholders. These benefits are so-called control premium. Another factor we should consider is market discount. As we know, these shares are not public tradable in the open market. In addition, there are strict restrictions on ownership transfer of these shares in China. Therefore, compared to tradable shares, there should be some discount when valuing non-tradable shares. However, it is market practice in China that transfer price of non-tradable shares is based on net assets per share. According to Li (2003), the average transfer price was very close to net assets per share

studies have used Tobin's (for example, Hermalin and Weisbach, 1991; Bhagat and Black, 2000; Lasfer, 2002; Hossain et al., 2001), Fama and French (1992, p434) have documented that MBV, combined with firm size, 'provide a simple and powerful characterization of the cross-section of average stock returns for the 1963-1990 period'. As noted by Barmhart et al. (1994), MBV has the additional benefit of being easily and precisely measured. Lindenberg and Ross (1981) argue that the total market value of a firm (the numerator) and the replacement value of assets (the denominator) cannot be measured precisely for calculating Tobin's Q. Moreover, a large part of debt of listed companies in China has no market value, which makes the computation of Tobin's Q impossible and inaccurate.

Following Claessens et al. (1999), Black, Jang and Kim (2002), Lasfer (2002), and Faccio and Lasfer (2003), the second measure of corporate performance is market-to-sales (MS), defined as market value of equity plus total debt over sales, where sales are net sales. Stowe et al. (2003) point out that sales are generally less subject to distortion or manipulation than are other fundamentals, such as earnings. Through discretionary accounting decisions concerning expenses, for example, management can distort EPS as a reflection of corporate performance. In contrast, sales as the top line in the income statement, is prior to any expenses.

The third measure of corporate performance is return on assets (ROA) that measures a firm's efficiency in utilizing its assets, where return is earnings before interest and tax (EBIT), and assets is book value of total assets. ROA is a useful indicator of how profitable a company is relative to its total assets.

in China during period from 1998 to 2002. In addition, control premium and market discount are not public available. Therefore, I value non-tradable shares only using net assets per share in this study.

The fourth measure of corporate performance is return on equity (ROE), where return is earnings before extraordinary items which is a conventional measure of shareholders' gain. ROE is a useful indicator of how well a company used reinvested earnings to generate additional earnings, and one of primary measures of how well management is running the company.

The fifth measure of corporate performance is gross profit margin (GPM), defined as profits from operations over net sales. This ratio indicates how efficiently a business is using its materials and labour in the production process. It shows the percentage of net sales remaining after subtracting cost of goods sold. A high gross profit margin indicates that a business can make a reasonable profit on sales, as long as it keeps overhead costs in control.

Following Bhagat and Black (2000), the last measure of corporate performance is ratio of sales to assets (RSA). It measures how well a firm is able to use its assets to generate sales income. A high ratio suggests greater efficiency in using its assets to generate sales.

5.3.2 Combined Performance Proxies

If the above six correlated performance measures are directly employed as dependent variables, the results may mislead and confusing. Therefore, following Green (1997), and Xiao and Yang (2004), I use Principal Component Analysis (PCA) to derive principal performance factors. Two principal factors are produced by CPA, Per-Measure 1 and Per-Measure 2.

5.4 Corporate Governance Variables and Control Variables

5.4.1 Corporate Governance Variables Definition

Independent Directors (IND). Fama (1980) and Fama and Jensen (1983) innovatively put forward “reputations hypothesis”. They argue that the monitoring effectiveness of the BoD as an internal control mechanism is enhanced by the inclusion of independent directors because independent directors have incentives to develop reputations as experts in decision control because the external market for their services prices them according to their performance as outside directors. Although the external market of independent directors in China is not so mature as that in developed countries, the independent directors should care about their reputation. Therefore, the proportion of independent directors on board is used as a proxy for the effectiveness of monitoring by the BoD on corporate performance. Affiliated directors are excluded from independent directors.

Affiliated Directors (AFFILIATED). Some independent directors are not really independent to appointing firms. They are associated with appointing firms in some way. According to Baysinger and Butler (1985), Byrd and Hickman (1992), and Bacon, Cornett, and Davidson (1997), affiliated directors or grey directors are not full-time employees of the firm but are associated with it to a degree. This class includes former employees of the firm, investment bankers, commercial bankers that have made loans to the firm, lawyers providing services to the firm, consultants, officers and directors of the firm’s suppliers and customers. Williamson (1984) argues that affiliated directors can hardly be independent from the management and objective in judging the managers’ performance. Thus in the paper, affiliated directors are defined as an indicator variable,

which is measured as the proportion of affiliated directors on board.

Board Size (BOARDSIZE). The size of BoD is expected to be associated with less effective board monitoring, based on the argument that larger boards are less effective and more susceptible to the influence of the CEO (Jensen, 1993). Eisenberg, Sundgren and Wells (1998) argue that as board size increases, increased problems of communication, process, decision making and coordination, and decreased ability of the board to control management thereby leading to agency problems. Yermack (1996) finds that there is a statistically significant and negative correlation between the board size and firm value. Thus, board size is included as an indicator variable, which is measured as the total number of directors at the end of fiscal year.

Stock Ownership of Independent Directors (INDSTOCK). As noted by Vance (1983) and Geneen (1984), by providing independent directors with a financial stake in the performance of the firm through incentive-based compensation, firms can align the interests of directors and shareholders. Kesner (1987) and Bhagat, Carey, and Elson (1999) report that there is positively related to corporate performance with stock ownership of independent directors. stock ownership of independent directors is included as an indicator variable, which is defined as average percentage of equity shares owned by independent directors in a given firm at the last of financial year.

Cash Compensation of Independent Directors (INDCASH). Some scholars find that there is positive correlation between corporate performance and compensation level of independent directors (e.g., Dunlap, 1997; Mehran, 1994). In this study compensation of independent directors is used, which is defined as logarithm of average annual total fee paid to independent directors in a given firm.

Independent directors' Characteristics. As noted in Chapter 3, directors' characteristics consist of two components. The first is the directors' background, which reflects the age, gender, educational background, values, and experiences of directors and managers. The second component refers to those qualities that transcend directors' individual or collective characteristics and reflect the 'personality' of the board. Kosnik (1990), Bilimoria and Piderit (1994), and Chtourou, Bédard and Courteau (2001) find that firm performance is positively associated with distinct director background and personality. Accordingly, age, gender, education background, and primary occupation of independent directors are included as indicator variables of directors' characteristics. Age of independent directors (INDAGE) is measured by the actual average age of independent directors appeared in the annual report of a firm. Gender of independent directors (GENDER) is a dummy variable, which is equal to one if there is at least one female independent director on board. Education background (INDEDCATION) is average degree scores of independent directors of a given firm. When degree of independent director is PhD, the degree score is 9, Master degree is 6, Bachelor degree is 3, and the other is 1.

In particular, this study tests effect of specific education background of independent directors on corporate performance. There are five variables, (1) PHD, the proportion of those who own PhD degree among independent directors; (2) MASTER, the proportion of those who own Master degree among independent directors; (3) BACHELOR, the proportion of those who own Bachelor degree among independent directors; (4) OTHER, the proportion of those who own degree other than above among independent directors; and (5) OVERSEAS, the proportion of those who have studied or worked overseas more

than one year among independent directors. According to primary occupation, following variables are used to examine their effect on corporate performance: (1) FINANCE, the proportion of those from financial institutions among independent directors; (2) CPA, the proportion of those from CPAs among independent directors; (3) LAW, the proportion of those from law firms among independent directors; (4) ACADEMIC, the proportion of those from academic institutions among independent directors; (5) GOVERNMENT, the proportion of those from government departments or their affiliated institutions among independent directors; (6) CORPORATE, the proportion of those from other corporations among independent directors; and (7) NEUTRAL, the proportion of those with any primary affiliation other than the above among independent directors.

Directorships (MULTI). Fama and Jensen (1983) argue that multiple board appointments can signal director quality. The appointment to numerous boards might be the result of the superior performance enjoyed earlier by the firm for which the individual serves as a director or as an executive. Following Fama and Jensen, Gilson (1990), Kaplan and Reishus (1990), and Vafeas (1999) suggest that the number of directorships held by a director might proxy for reputational capital, with such individuals viewed as high quality directors. However, Core, Holthausen, and Larcker (1999) and Shivdasani and Yermack (1999) suggest that directors can become over-committed when serving on multiple boards, rendering them unable to provide meaningful managerial monitoring. Managers subject to lax monitoring might be able to impose greater agency costs on the firm, with a consequent reduction in firm performance and value. According to guidance of CSRC (2001), one person can only take five independent directorships. Are there negative effects of multi-directorships on corporate performance? In the paper, the

multiple directorships is used as an indicator variable, which is equal to the maximum number of directorships held by one member of a firm's board.

CEO Duality (CEODUALITY). As noted in Chapter 3, board scholars usually study two kinds of board leadership: unitary leadership and dual leadership. Unitary leadership exists when CEO serves also as the board chairman. Dual leadership means that different individuals hold the CEO and chair position. Dual leadership is predicted to have a more positive effect on corporate performance because effective checks and balances are in place. Unitary leadership is potential threat to the independence of the board. As noted by Jensen (1993), the lack of independent leadership makes it “extremely difficult for the board to respond early to failure in its top management team.” The dual Chair/CEO is used as an indicator variable, which is equal to one if the board chair is also the CEO, and zero otherwise.

Auditing Committee (AUDITING). Several empirical studies report that auditing committee have significant effects on corporate financial performance (for example, Millstein and MacAvoy, 1998, Bhagat and Black, 2000, and Klein, 2002), earnings management behavior (e.g., Peasnell et al., 2000, Xie et al., 2001, and Chtourou et al., 2001) and financial fraud (Beasley, 1996). Therefore, in this paper, AUDITING is used as an indicator variable of board structure, which is a dummy variable, equal to one if there is an auditing committee on board, and zero otherwise.

Board Meetings (MEETING). Some scholars argue that board meetings are beneficial to shareholders. Lipton and Lorsch (1992) suggest that the most widely shared problem directors face is lack of time to carry out their duties. Similarly, Conger, Finegold, and Lawler (1998) suggest that board meeting time is an important resource in

improving the electiveness of a board. This view is reinforced by recent criticisms, in both the financial and the academic press, of directors who spread their time too thin by taking on too many outside directorships, confounding their ability to attend meetings regularly and, therefore, to monitor management well (e.g., Byrne, 1996; NACD, 1996). In the paper, frequency of board meeting is included as an indicator variable, which is defined as number of board of meetings held in one financial year of a given firm.

Directors from Different Control Shareholders. Li (2003) and Xue and Wang (1997) report that different natures of ownership have different effects on corporate performance. As discussed in the Chapter 4, this study focuses on two major kinds of control shareholders, government agents shareholders and SOEs shareholders. Two variables, the proportion of directors appointed by government agents shareholders (GOVDIRECTOR), and the proportion of directors appointed by SOEs shareholders (SOEDIRECTOR) are included in order to examine their effects on corporate performance.

5.4.2 Control Variables Definition

A number of control variables suggested in the previous literature are used to account for any potential effects of external factors on corporate performance.

State Ownership (STATE). One important question about the ownership structure of Chinese firms is whether the degree of state ownership is related to corporate performance. Previous findings generally suggested a negative relationship between state share ownership and performance (Xu and Wang, 1999). Thus, the variable, the percentage of state shares, is included, which is measured as the percentage of equity

shares owned by the central government, local governments or their wholly owned economic institutions at the last accounting year end. The squared value of state ownership is also used to account for the non-linearity relationship between firm performance and state ownership, as shown by Xu and Wang (1999).

Block Ownership (BIGGEST). Following La Porta et al. (1999), Claessens et al. (2000) and Faccio et al. (2001), the block-ownership is considered by using the proportion of total shares held by the first biggest shareholder, the second biggest shareholder and the third biggest shareholder at the last accounting year end respectively, as a proxy for the incentive of large shareholders to improve corporate performance.

Senior Managers Equity Ownership (MANSTOCK). Jensen and Meckling (1976) argue that agency costs are lower in firms with high managerial ownership stakes because of the better alignment of shareholder and manager goals. Therefore, in order to reduce agency costs, shareholders usually give managers an equity stake in the firm by aligning managerial interests with their interests. This study controls for managerial ownership by using the proportion of shares held by CEO and by senior manager respectively, and the latter includes CEO, directors, supervisory directors, and other senior managers of a given firm. The squared value of managerial ownership is also employed to account for the non-linearity relationship between firm performance and managerial ownership, as shown by Morck, Shleifer and Vishny (1988).

Senior Managers Cash Compensation (MANCASH). Baker (1992), Dechow and Sloan (1991), and Kaplan (1994) argue that in order to induce managers to maximize shareholder wealth, their compensation should be tied to firm performance. Coughlan and Schmidt (1985), Mehran (1995), and Murphy (1985, 1998) report that there is a positive

relationship between corporate performance and compensation level of CEO and other senior managers. Compensation of CEO and senior managers is used as a control variable, which is defined as ratio of annual total cash compensation paid to CEO and senior managers to net sales of a given firm respectively.

Firm size (SIZE). In line with Faccio et al. (2001), and Fama and French (2001), we include firm's size as a control variable. It has been noted that large-size manufacturing enterprises in China have encountered more problems when adapting themselves to a market-oriented economy (Li et al., 1997). This variable, SIZE, is defined as the logarithm of book value of total assets at the accounting year end.

Listing Time (LISTINGTIME). Hannan and Freeman (1989) argue that older firms should be more inert than younger ones. However, other researchers argue that older firms would be benefited from their ability to secure resources and their industrial experience (e.g., Perrow, 1986; Pfeffer, 1978). Accordingly, listing time is included as a control variable (LTIME), which is defined as number of listing years after IPO.

Firm Debt (DEBT). It is documented that firm debt has significant effects on corporate performance. Following Kaplan and Reishus (1990), Vafeas (1999), and Brick et al. (2002), the ratio of total debt to total assets is included as a measure of firm leverage to control its effects on corporate performance.

Investment Opportunities (INVEST). Investment opportunities are used as a control variable. Following Fama and French (2001), this paper uses a firm's rate of growth of assets as the proxy for investment opportunities.

Year Dummy (YEAR). Year dummies are included in order to control for changes in the macroeconomic environment and government banking and credit policy over

during the sample period.

Size of Supervisory Board (SUPERSIZE) and Independent Member of Supervisory Board (INDSUPER). Dahya et al. (2004) document that the supervisory board in China plays one of four roles: (1) an honoured guest, (2) a friendly advisor, (3) a censored watchdog, or (4) an independent watchdog, in response to both internal and/or external stimuli. In order to control their effect on corporate performance, this paper employs two variables, SUPERSIZE, which is number of members on supervisory board, and INDSUPER, which is proportion of independent member on supervisory board.

Finally, this study employs dummy variables to control for industry effects on corporate performance. The industry classification scheme issued by the CSRC in 1999 is adopted here.

Table 5.1 presents the detailed definition of all variables.

Table 5.1 The Variables Definition

Variables	Description	Expected Sign
Performance Measure	Market-to-book value of common equity (MBV)	N/A
	Market-to-sales (MS)	N/A
	Return on assets (ROA)	N/A
	Return on equity (ROE)	N/A
	Gross profit margin (GPM)	N/A
	Ratio of sales to assets (RSA)	N/A
	Per-Measure 1	N/A
	Per-Measure 2	N/A
	Independent Directors (IND)	+
	Affiliated Directors (AFFILIATED)	-
Corporate Governance Variables	Board Size (BOARDSIZE)	-
	Independent directors Characteristics (AGE; INDEDUCATION; GENDER)	?
	Primary Occupation of Independent Directors	+
	other than the above among independent directors	

Table 5.1 The Variables Definition (continued)

Variables		Description	Expected Sign
Corporate Governance Variables	Education Background of Independent Directors	(1) PHD, proportion of those who own PhD degree among independent directors; (2) MASTER, proportion of those who own Master degree among independent directors; (3) BACHELOR, proportion of those who own Bachelor degree among independent directors; (4) OTHER, proportion of those who own degree other than above among independent directors; (5) OVERSEAS, proportion of those who have studied or worked overseas more than one year among independent directors	+
	Directorships (MULTINDIR)	Equal to the maximum number of directorships held by one member of a firm's board	-
	Board Leadership (CEODUALITY)	Equal to one if the board chair is also the CEO, and zero otherwise	-
	Auditing Committee (AUDITING)	Equal to one if there is auditing committee on board, and zero otherwise.	+
	Board meetings (BOARDMEET)	Number of board of meetings held in one financial year	+
	Stock Ownership of Independent Directors (INDSTOCK)	Percentage of equity shares owned by independent directors in a given firm	+
	Compensation of Independent Directors (INDCASH)	Average annual total fee paid to independent directors in a given firm	+
	Proportion of Directors Appointed by Government Agents Control Shareholders (GOVDIRECTOR)	Proportion of directors appointed by government agents control shareholders on board.	-
	Proportion of Directors Appointed by SOEs Control Shareholders (SOEDIRECTOR)	Government agents include the ministries, commissions of State Council, local governments and local state-owned assets supervision and administration bureaus or offices.	+
	Proportion of Directors Appointed by SOEs Control Shareholders (SOEDIRECTOR)	Proportion of directors appointed by SOEs control shareholders on board	+
Control Variables	Stock Ownership of Senior Managers (MANSTOCK)	Percentage of equity shares owned by senior managers	+
	Cash Compensation of Senior Managers (MANCASH)	Ratio of Annual total cash compensation paid to senior managers to total sales	+
	State Ownership (STATE)	Percentage of equity shares owned by the central government, local governments or their wholly owned economic institutions at the accounting year end	?
	Block Ownership (BIGGEST)	Proportion of shares held by the first biggest shareholder, the second biggest shareholder and the third biggest shareholder	?
	Firm size (FIRMSIZE)	Logarithm of book value of total assets at the accounting year end	+
	Listing Time (LISTINGTIME)	Number of listing years	-
	Firm Debt (DEBT)	Ratio of total debt to total assets	?
	Investment Opportunities (INVEST)	Rate of growth of total assets	+
	Institutional Change Effect (YEAR)	Equal to one if a sample company appoints independent directors before 2001, and zero otherwise	?
	Size of supervisory board (SUPERSIZE)	Number of members of supervisory board	+
Proportion of Independent Supervisor Director (INDSUPER)		Proportion of independent members on supervisory board	+

5.5 Summary

This chapter presents testable hypotheses and defines variables. Firstly, this chapter develops ten testable hypotheses for the dissertation. Then it analyses how to measure corporate performance. In addition, it defines governance variables and control variables. The hypotheses and variables in this chapter are basis of empirical tests of next two chapters.

Chapter 6 Empirical Results: The Impacts of BoD on Corporate Performance

6.1 Introduction

This chapter examines the impacts of board composition, characteristics of independent directors, board structure and process, and sources of directors on corporate performance. Multi-regression models are employed to test the relationship. Section 6.2 presents sample and data for this chapter. Section 6.3 discusses data characteristics and correlation analysis. Section 6.4 presents empirical results of regression analysis. Section 6.5 presents results of the robustness tests. Section 6.6 concludes this chapter.

6.2 Sample and Data

6.2.1 Sample Construction

The sample examined in this chapter consists of firms listed on the Shanghai Securities Exchange (SHSE) and Shenzhen Securities Exchange (SZSE) for the period 1993 to 2002. The sample is determined according to the following criteria:

(a) Firms have to be listed in the exchanges for at least a year. This condition is imposed to ensure that corporate governance and corporate performance are not affected as a result of a new listing.

(b) Firms that issue B or H shares for foreign investors are excluded. The accounting standards they use are fairly different from other firms that issue shares for domestic investors, and their corporate governance is also different from that of their counterparts (Xue, 2001).

(c) Firms that experienced reorganizations during the sample period are excluded¹⁷. After reorganizations, the ownership and corporate governance of these firms are seen great changes, and so performance (Chen and Yuan, 1998).

(d) Financial companies are excluded from the sample because the structure and the accounting practices for these companies differ substantially from non-financial firms.

(e) There has been at least one year for those firms since they appointed independent directors. This condition was imposed to ensure that effects of independent directors came into play.

In total, the sample for this chapter consists of 291 observations over the period 1999 to 2002 which are used to examine directly relationship between BoD and corporate financial performance. In 1999, there are 13, in 2000, there are 40, in 2001, there are 118, and in 2002, there are 120. Table 6.1 reports information of industry classification by CSRC (1999) of the sample.

[Table 6.1 goes about here]

¹⁷ This dissertation only excludes those reorganized firms that experienced a change in control shareholders.

Table 6.1 Industry Information of the Sample

	1999	2000	2001	2002	Total
Agriculture	0	0	2	2	4
Whole Sale and Retail Trade	1	1	21	21	44
Petroleum, Chemical and Plastics	3	3	7	8	21
Architecture and Construction	0	2	3	3	8
Textile	0	2	5	5	12
Communication	1	4	7	7	19
Conglomerate	0	2	5	6	13
Food	1	1	2	1	5
Information Technology	0	0	5	5	10
Machine, Equipment and Instrument	2	7	23	23	55
Pharmaceuticals	1	5	8	9	23
Metal	1	4	12	11	28
Non-metal	1	2	5	5	13
Real Estate	0	3	4	4	11
Electricity, Gas and Water and public transport	2	4	9	10	25
Total	13	40	118	120	291

6.2.2 Data Collection

Data sources of the study are as follows:

- (1) Corporate governance data. These data are from Genius Database, www.csrc.gov.cn of China Securities Regulatory Committee (CSRC), www.sse.com.cn of Shanghai Stock Exchange (SHSE), and www.sse.org.cn of Shenzhen Stock Exchange (SZSE).
- (2) Stock ownership and compensation data. These data are manually collected from annual reports of listed companies from Genius Database.
- (3) Ownership structure and other financial data. These data are from Genius Database, www.csrc.gov.cn of China Securities Regulatory Committee (CSRC), www.sse.com.cn of Shanghai Stock Exchange (SHSE), and www.sse.org.cn of Shenzhen Stock Exchange (SZSE).

In order to improve the accuracy of data, the Wind Database is used as well.

6.2.3 Outliers Control: Rank Transformation

Outliers in data will seriously affect accuracy of empirical findings. In order to improve the estimation accuracy of regression and excluding the effects of the outliers, following Kane and Meade (1998), and Zou et al. (2003), rank transformations of the independent and dependent variables are employed¹⁸.

6.3 Data Characteristics and Correlations

6.3.1 Corporate Governance Characteristics

Table 6.2 presents descriptive statistics on the corporate governance characteristics

¹⁸ Kane and Meade (1998) demonstrate that rank transformations have advantages of preserving comparative information, avoiding arbitrary sample trimming and improving fit.

of the sample companies.

Board Composition. Following Hermalin and Weisbach (1988), Millstein and MacAvoy (1998), and Vafeas (1999), this paper classifies directors into three classes, independent directors, affiliated directors, and inside directors. Compared to independent directors dominated board in the U.S., boards in China are absolutely controlled by insiders. Using American corporate data, Vafeas (1999) reports that 55.6 percent members on board are independent directors, and Anderson and Bizjak (2002) report that 59.3 percent are independent directors. Panel A reports the results of this paper. A board one average has 10 members, including 77 percent insiders and only 21 percent independent members. The maximum proportion of independent directors is only 56 percent.

Stock Ownership and Cash Compensation. Panel B reports the descriptive statistics of ownership and compensation data. The mean proportion of stock ownership held by independent directors is nearly zero, and the maximum value of the ratio is also tiny (nearly 0 percent). The average annual cash compensation of independent directors is only RMB 26,252 (about US\$3,201), and the maximum compensation is RMB 260, 000 (about US\$ 31,707). By contrast, in American companies, Bhagat and Black (2000) find that the average equity ownership held by independent directors is 2.80 percent and Ferris et al. (2004) even report a 5.84 percent. Brick et al. (2002) presents that mean annual cash compensation for independent directors is US\$ 42,522 in US companies.

Independent Directors Background. Panel C reports background information of independent directors. The average age of independent directors is 51 years old with the oldest being 77. On average, only 16 percent of 291 observation companies have female

independent directors. Furthermore, about 46 percent of independent directors are from academic institutions, 7 percent are from financial institutions, only 3 percent are CPAs, and 6 percent are lawyers. Rosenstein and Wyatt (1990) report that 9 percent of U.S. independent directors are professors and researchers, 17.3 percent are from financial firms, and 5.1 percent are lawyers. Anderson and Bizjick (2002) report that only 4.7 percent of independent directors are academics, and 40.6 percent are executives of other companies in a sample consisting 1,376 U.S. companies' observations. As far as education background is concerned, overall, the average education background of independent directors is above the bachelor level. On average, 27 percent and 28 percent of independent directors respectively have a PhD and Master degree, and 20 percent of them have overseas study or work experience.

Board Structure and Process. Panel D reports descriptive statistics for board structure and process data. In 291 sample companies, 15 percent of their CEOs are also chairman on board. Simpson and Gleason (1999) report that 56.7 percent of U.S. CEO are chairman. Brick et al. (2002) find that the ratio is 77.4 percent. This indicates that CEO duality in China is less popular than in U.S. On average, independent directors hold 1.55 directorships. The maximum directorship is 5, which is the highest number permitted by the CSRC (2001). Overall, only 16 percent of sample companies have an auditing committee. On average, boards of Chinese listed companies hold 7.21 meetings per year. This result is similar to Vafeas (1999), who reports that U.S. corporate boards hold 7.45 meetings.

Sources of directors. Panel E reports descriptive statistics results for sources of directors. The controlling shareholders usually appointed their representatives to the

board. On average, the proportion of directors appointed by government agency shareholders amounts to only 1 percent while the figure by SOEs is 24 percent.

6.3.2 Firm Characteristics

Panel F of Table 6.2 shows that average market-to-book value (MBV) is 3.84, market-to-sales is 4.89, and mean gross profit margin is 25 percent. On average, the state-owned equity is 30 percent, and the biggest shareholders hold about 44 percent. The average size of supervisory board is 4 members with the maximum being 9. Some companies do appoint independent supervisory board members, and the average proportion of independent members on board is 4 percent. The capital structure of sample companies is 55 percent, which is a normal number.

[Table 6.2 goes about here]

6.3.3 Rank Transformation

From the Table 6.1, we can find that several variables are highly skewed, which are indicated by bold font. In order to improve the estimation accuracy of regression and control effects of outliers, as noted above, rank transformations of the independent and dependent variables are used. Rank equivalents of the following variables are included in the analysis¹⁹, the performance, governance and control variables, MBV, MS, ROA, ROE, GPM, RSA, MANSTOCK, MANCASH, FINANCE, CPA, LAW, GOVERNMENT, NEUTRAL, OTHER, GOVDIR, DEBT, and INVEST. Table 6.3 reports the descriptive statistics for those variables after rank transformation.

[Table 6.3 goes about here]

¹⁹ Kane and Meade (1998) demonstrate that rank transformations have advantages of preserving comparative information, avoiding arbitrary sample trimming and improving fit.

Table 6.2 Data Characteristics

The table reports descriptive statistics for characteristics of sample data. The sample consists of 291 companies listed on Shanghai Stock Exchange and Shenzhen Stock Exchange during 1999-2002. Board size represents the number of members on BoD at the end of fiscal year. Gender of independent director is a dummy variable, which is equal to one if at least one of independent directors who is female, and zero otherwise. Average education scores of independent directors are mean value of their education scores. If degree of one independent director is Ph.D., the education score is 9, Master is 6, Bachelor is 3, and the other is 1. Multi-independent-directorship is defined as the maximum number of directorships held by one member of a firm's board. CEO duality is a dummy variable, which is equal to one if CEO is chairman on board, and zero otherwise. Auditing committee is a dummy variable, which is equal to one if there is an auditing committee on board, and zero otherwise. Market-to-book value is defined as market value of equity plus book value of debt over book value of equity. Market-to-sales is defined as market value of equity plus total debt over sales. Supervisory board size represents the number of members on supervisory board at the end of fiscal year.

	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
Panel A: Board Composition						
Proportion of independent directors on board	0.00	0.56	0.21	0.10	0.01	-0.08
Proportion of affiliated directors on board	0.00	0.29	0.02	0.06	2.70	6.97
Proportion of inside directors on board	0.43	0.94	0.77	0.10	-0.70	0.66
Board size	5.00	19.00	10.37	2.51	0.51	0.61
Panel B: Stock Ownership and Cash Compensation						
Proportion of stock ownership of independent directors	0.00	0.00	0.00	0.00	11.23	130.08
Cash compensation of independent directors (RMB)	0.00	260000.00	26252.10	40864.22	3.27	13.28
Proportion of stock ownership of senior managers	0.00	0.01	0.00	0.00	5.80	38.60
Ratio of cash compensation of senior managers to total sales	0.00	0.45	0.00	0.03	15.94	263.80
Panel C: Independent Directors Background						
(1) Age:						
Average age of independent directors	34.00	78.00	51.16	8.54	0.51	0.10
(2) Gender:						
Gender of independent director (dummy variable)	0.00	1.00	0.16	1.85	1.43	1.00
(3) Primary occupation:						
Proportion of those from financial institutions among independent directors	0.00	1.00	0.07	0.17	2.56	7.09
Proportion of those from CPAs among independent directors	0.00	1.00	0.03	0.11	5.02	30.33
Proportion of those from law firms among independent directors	0.00	1.00	0.06	0.15	2.99	10.78
Proportion of those from academic institutions among independent directors	0.00	1.00	0.46	0.39	0.21	-1.43
Proportion of those from other companies among independent directors	0.00	1.00	0.22	0.32	1.27	0.48
Proportion of those from government departments or their affiliated institutions among independent directors	0.00	1.00	0.05	0.16	3.91	16.10
Proportion of those with any primary affiliation other than the above among independent directors	0.00	1.00	0.12	0.26	2.42	5.10

Table 6.2 Data Characteristics (Continued)

	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
(4) Education:						
Average education scores of independent directors	1.00	9.00	5.32	2.00	0.16	-0.71
Proportion of those who own Ph.D. degree among independent directors	0.00	1.00	0.27	0.33	1.02	0.01
Proportion of those who own Master degree or are studying Ph.D. among independent directors	0.00	1.00	0.28	0.34	0.96	-0.26
Proportion of those who own bachelor degree or are studying Master degree among independent directors	0.00	1.00	0.41	0.37	0.31	-1.18
Proportion of those who own other diploma or degree other than the above among independent directors	0.00	1.00	0.05	0.16	3.91	16.67
Proportion of those who earned their degrees from overseas universities or worked overseas more than one year among independent directors	0.00	1.00	0.20	0.31	1.35	0.69
<i>Panel D: Board Structure and Process</i>						
CEO duality (dummy variable)	0.00	1.00	0.15	0.36	1.96	1.84
Multi-independent-directorship	1.00	5.00	1.55	1.09	1.89	2.44
Auditing committee (dummy variable)	0.00	1.00	0.16	0.37	1.82	1.30
Frequency of board meeting in one financial year	0.00	20.00	7.21	3.36	1.19	1.90
<i>Panel E: Sources of Directors</i>						
Proportion of directors appointed by government agents on board	0.00	1.00	0.01	0.07	9.27	105.56
Proportion of directors appointed by SOEs on board	0.00	1.00	0.24	0.25	0.70	-0.02
<i>Panel F: Firm Characteristics</i>						
Market-to-book value	-1.03	61.73	3.84	5.53	8.40	80.58
Market-to-sales	0.45	183.87	4.89	12.57	11.53	151.64
Return on assets	-6.45	0.16	-0.02	0.44	-12.41	170.17
Return on equity	-2.42	1.34	0.03	0.30	-3.95	32.12
Gross profit margin	-0.07	0.91	0.25	0.15	1.75	4.34
Ratio of sales to total assets	0.01	2.96	0.59	0.41	2.22	7.99
Proportion of equity ownership owned the government agents	0.00	0.85	0.30	0.27	0.27	-1.30
Proportion of equity ownership by the biggest shareholders	0.00	0.85	0.44	0.19	-0.02	-0.62
Supervisory board size	2.00	9.00	4.28	1.36	0.73	0.26
Proportion of independent supervisory directors	0.00	0.67	0.04	0.12	1.42	2.15
Firm size (the logarithm of book value of total assets)	3.98	7.57	5.31	0.49	1.12	2.68
Capital structure	0.01	8.50	0.55	0.63	9.99	114.03
Invest opportunities (growth of total assets)	-0.89	6.19	0.16	0.49	7.18	80.94
Listing time	1.00	11.00	4.96	2.83	-0.08	-1.09

Table 6.3 Data Characteristics after Rank Transformation

The table reports descriptive statistics for characteristics of sample data after rank transformation. I only take rank transformation for those variables whose kurtosis are more than 3 as indicated by boldface in Table 6.1. The sample consists of 291 companies listed on Shanghai Stock Exchange and Shenzhen Stock Exchange during 1999-2002. Market-to-book value is defined as market value of equity plus book value of debt over book value of equity. Market-to-sales is defined as market value of equity plus total debt over sales.

	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
Proportion of affiliated directors	0.37	0.99	0.50	0.18	1.81	1.46
Proportion of stock ownership of independent directors	0.46	0.99	0.50	0.12	3.55	10.68
Cash compensation of independent directors	0.06	0.99	0.50	0.26	0.28	-1.18
Proportion of stock ownership of senior managers	0.07	0.99	0.50	0.28	0.06	-1.30
Ratio of cash compensation of senior managers to total sales	0.01	0.99	0.50	0.29	0.00	-1.20
Proportion of independent directors from financial institutions	0.39	0.99	0.50	0.19	1.72	1.08
Proportion of independent directors from CPAs	0.44	0.99	0.50	0.12	3.30	9.43
Proportion of independent directors from law firms	0.39	0.99	0.50	0.18	1.88	1.65
Proportion of independent directors from government departments or their affiliated institutions	0.39	0.99	0.50	0.14	2.81	6.14
Proportion of independent directors with any primary affiliation other than the above	0.32	0.98	0.50	0.21	1.36	0.00
Proportion of independent directors who own other diploma or degree other than Ph.D., Master and Bachelor	0.43	0.99	0.50	0.15	2.51	4.43
Proportion of directors appointed by government agents control shareholders	0.48	0.99	0.50	0.11	4.24	16.11
Market-to-book value	0.01	0.99	0.50	0.29	0.00	-1.20
Market-to-sales	0.01	0.99	0.50	0.29	0.00	-1.20
Return on assets	0.01	0.99	0.50	0.29	0.00	-1.20
Return on equity	0.01	0.99	0.50	0.29	0.00	-1.20
Gross profit margin	0.01	0.99	0.50	0.29	0.00	-1.20
Ratio of sales to total assets	0.01	0.99	0.50	0.29	0.00	-1.20
Capital structure	0.01	0.99	0.50	0.29	0.00	-1.20
Invest opportunities (growth of total assets)	0.01	0.99	0.50	0.29	0.00	-1.20

6.3.4 Correlations

Table 6.4 presents Spearman correlation between dependent variables. Due to large number of variables, this chapter employs four panels to report the results. Except for the correlation between the size of the supervisory board (SUPERSIZE) and the proportion of independent members on the supervisory board (INDSUPER) (coefficient= 0.342), most other correlations between independent variables are small in magnitude, and the absolute correlation coefficients are less than 0.30. Overall, the correlation analysis suggests that multicollinearity is not a significant problem in the subsequent regression analyses.

[Table 6.4 goes about here]

Table 6.4 Correlations Statistics for the Full Sample

This table reports the correlation statistics for the full sample. The sample consists of 291 companies listed on Shanghai Stock Exchange and Shenzhen Stock Exchange during 1999-2002.

Panel A: Board Composition and Corporate Performance

(1) IND, proportion of independent directors on board; (2) AFFILIATED, proportion of affiliated directors on board; (3) BOARD SIZE, the number of members on board; (4) MANSTOCK, proportion of equity ownership by senior managers; (5) MANCASH, ratio of cash compensation of senior managers to sales; (6) STATE, proportion of state owned equity ownership; (7) BIGGEST, proportion of equity ownership by the biggest shareholder; (8) FIRM SIZE, logarithm of book value of total assets; (9) LIST TIME, number of listing time; (10) DEBT, capital structure; (11) INVEST, investment opportunity, growth of total assets; (12) YEAR, year dummies; (13) SUPER SIZE, number of members on supervisory board; (14) INDSUPER, proportion of independent members on supervisory board

IND	AFFILIATED	BOARD SIZE	MANSTOCK	MANCASH	STATE	BIGGEST	FIRM SIZE	LIST TIME	DEBT	INVEST	INSC HANG	SUPER SIZE	INDSUPER
1													
AFFILIATED	-0.366***	1											
BOARD SIZE	-0.116**	-0.024	1										
MANSTOCK	-0.111*	0.041	-0.107*	1									
MANCASH	-0.027	-0.063	-0.184***	0.135	1								
STATE	0.053	-0.056	0.027	-0.207***	-0.302***	1							
BIGGEST	0.037	-0.033	-0.021	-0.242***	-0.151*	0.396***	1						
FIRM SIZE	0.074	0.018	0.330***	-0.161***	-0.641***	0.288***	0.255***	1					
LIST TIME	-0.033	0.098*	-0.001	0.211***	-0.129**	-0.185**	-0.249***	-0.007	1				
DEBT	-0.042	-0.005	0.150***	0.189***	-0.216***	0.026	-0.124**	0.121*	0.281***	1			
INVEST	0.035	0.129**	-0.012	0.102*	0.024	-0.062	-0.049	0.107*	-0.115**	0.084	1		
INSC HANG	-0.209	0	-0.021	0	0	0.012	0.076	0.065	-0.065	0	0	1	
SUPER SIZE	-0.021	0.025	0.200***	-0.187***	-0.226***	0.235***	0.115**	0.355***	0.027	0.112*	0.012	0.040	1
INDSUPER	0.246***	-0.093	0.119**	-0.143**	-0.259***	0.123**	0.206***	0.375***	-0.119**	-0.04	0.059	0.342***	1

Panel B: Incentives and Sources of Independent Director and Corporate Performance

(1) INDSTOCK, proportion of equity ownership by independent directors; (2) INDCASH, average cash compensation of independent directors; (3) GOVDIRECTOR, proportion of directors appointed by government agents control shareholders; (4) SOEDIRECTOR, proportion of directors appointed by SOEs control shareholders.

	MANSTOCK	MANCASH	STATE	BIGGEST	FIRM SIZE	LIST TIME	DEBT	INVEST	INSC HANG	SUPER SIZE	INDSUPER	INDSTOCK	INDCASH	GOVDIRECTOR	SOEDIRECTOR
INDSTOCK	0.161***	0.049	0.019	0.019	-0.031	-0.033	0.105	0.088	0	-0.061	-0.069	1			
INDCASH	0.007	0.017	0.093	0.012	0.125**	-0.047	-0.057	0.052	0	0.150***	0.176***	0.005	1		
GOVDIRECTOR	0.057	-0.063	-0.066	-0.230***	-0.078	0.135**	0.095	-0.039	0	-0.017	-0.067	-0.059	-0.044	1	
SOEDIRECTOR	-0.100*	-0.277***	0.211***	0.297***	0.225***	0.07	-0.015	-0.077	0.092	0.129**	0.013	-0.042	-0.041	-0.251***	1

Table 6.4 Correlations Statistics for the Full Sample (Continued)

Panel C: Independent Directors Characteristics and Corporate Performance

(1) INDAGE, average age of independent directors on board; (2) GENDER, equal to one if there is at least one of independent directors who is female, and zero otherwise; (3) FINANCE, proportion of those from financial institutions among independent directors; (4) CPA, proportion of those from CPAs among independent directors; (5) LAW, proportion of those from law firms among independent directors; (6) ACADEMIC, proportion of those from academic institutions among independent directors; (7) GOVERNMENT, proportion of those from government departments or their affiliated institutions among independent directors; (8) CORPORATE, proportion of those from other corporations among independent directors; (9) NEUTRAL, proportion of those with any primary affiliation other than the above among independent directors.

	MANST	MANC	STATE	BIGGE	FIRMSI	LISTTI	DEBT	INVEST	YEAR	SUPER	INDSU	INDAG	FINAN	CPA	LAW	ACADE	GOVER	CORPO	NEUTR
	OCK	ASH		ST	ZE	ME				SIZE	PER	E	CE			MIC	MENT	RATE	AL
INDAGE	-0.043	-0.137	0.268***	0.33	0.252	-0.072	-0.019	-0.069	0.030	-0.010	0.058	1							
GENDER	-0.105*	0.024	0.068	-0.018	0.053	-0.069	-0.071	-0.067	-0.086	-0.043	0.070								
FINANCE	0.023	-0.061	-0.035	0.027	0.172***	0.102**	-0.065	-0.048	0	0.077	0.240***	-0.243***	1						
CPA	-0.142***	-0.034	-0.002	-0.089	0.009	0.119*	0.195***	0.053	0	0.017	0.051	-0.087	0.146***	1					
LAW	-0.150***	-0.056	0.055	0.118**	0.116*	0.085	-0.072	-0.015	0	0.125*	0.299***	-0.048	0.072	0.131**	1				
ACADEMIC	0.064	-0.011	0.057	-0.099	-0.108*	0.022	0.012	0.042	-0.140*	-0.015	-0.164*	-0.139*	-0.198***	-0.232***	-0.264***	1			
GOVERNMENT	-0.131**	-0.179***	0.156***	0.152***	0.230***	-0.156***	0.131**	0.096*	0	0.173***	0.046	0.088	-0.100*	0.082	-0.002	-0.239***	1		
CORPORATE	0.024	0.073	-0.194*	-0.064	-0.063	-0.024	-0.085	-0.009	0.053	0.019	0.012	-0.149*	-0.147*	-0.037	-0.068	-0.535***	-0.06	1	
NEUTRAL	0.014	-0.034	0.112*	0.178***	0.087	-0.165***	0.027	-0.026	0	-0.144	0	0.564	-0.077	-0.103*	-0.021	-0.341	0.013	-0.160***	1

Panel D: Independent Directors Characteristics, board structure and Corporate Performance

(1) INDEDUCATION, average degree scores of independent directors of a given firm. When degree of independent director is PhD, the degree score of him is 9, Master degree is 6, Bachelor is 3, and other degree is 1; (2) PHD, proportion of those who own PhD degree among independent directors; (3) MASTER, proportion of those who own Master degree among independent directors; (4) BACHELOR, proportion of those who own Bachelor degree among independent directors; (5) OTHER, proportion of those who own degree other than above among independent directors; (6) OVERSEAS, proportion of those who have studied or worked overseas more than one year among independent directors; (7) CEODUALITY, equal to one if CEO is also chairman on board, and zero otherwise; (8) MEETING, number of board meetings in one fiscal year; (9) MULTINDIR, the maximum number of directorships held by one member of board; (10) AUDITING, equal to one if there is an auditing committee on board, and zero otherwise.

	MANST	MANCA	STATE	BIGGE	FIRMSI	LISTTI	DEBT	INVEST	INSCH	SUPER	INDSU	INDEDUC	PHD	MASTE	BACHE	OTHER	OVERS	CEODU	MEETI	MULTI
	OCK	SH		ST	ZE	ME			ANG	SIZE	PER	ATION		R	LOR		EAS	ALITY	NG	NDIR
INDEDUCATION	0.055	0.095	-0.149	-0.139	-0.111	0.003	-0.004	0.155	-0.110	0.034	-0.116*	1								
PHD	0.019	-0.044	-0.097*	-0.105*	-0.038	0.027	0.045	0.149***	-0.146***	0	-0.072	0.311***	1							
MASTER	0.053	0.264***	-0.078	-0.023	-0.137*	-0.057	-0.118*	0.051	0.035	-0.016	-0.085	0.193***	-0.345***	1						
BACHELOR	-0.055	-0.193***	0.118**	0.069	0.165***	0.029	0.079	-0.164***	0.079	0.078	0.149***	-0.712***	-0.490***	-0.547***	1					
OTHER	-0.013	-0.054	0.105*	0.120*	0.006	0.007	-0.033	0.003	0	-0.104*	0.071	-0.415***	-0.203*	-0.134*	-0.089	1				
OVERSEAS	-0.105*	0.009	0.048	0.141**	0.131**	-0.081	-0.095	-0.011	-0.018	-0.029	0.062	0.169***	0.108*	0.106*	-0.139**	-0.113*	1			
CEODUALITY	0.084	0.111*	-0.046	-0.044	-0.07	-0.058	-0.071	0.056	0.025	-0.095	0.092	-0.068	-0.092	0.122**	-0.079	0.048	0.073	1		
MEETING	-0.016	0.073	-0.170***	-0.152***	-0.011	0.061	0.113*	-0.111*	-0.233***	-0.012	0.008	0.045	0.082	-0.074	-0.004	0.048	-0.091	-0.117***	1	
MULTINDIR	-0.008	-0.039	-0.009	0.084	-0.002	0.025	-0.064	0.029	-0.164***	-0.003	0.059	0.214***	0.120**	0.153***	-0.189***	-0.133**	0.068	-0.01	0.09	1
AUDITING	-0.174***	-0.2***	0.173***	0.078	0.300***	-0.111	-0.047	-0.06	-0.09	0.146***	0.307***	-0.047	0.01	-0.110*	0.120**	-0.005	-0.04	0.019	0.147***	0.056

6.4 Models and Empirical Results of Regression Analysis

6.4.1 Board Composition and Corporate Performance

Fama (1980) argues that the viability of the board as an internal control mechanism is enhanced by the inclusion or new appointment of independent directors because they have incentive to develop reputations as experts in decision making and because the external market for their services prices them according to their performance as independent directors. In particular, Fox and Opong (1999) argue that the inclusion of new independent directors to the board could be beneficial for a number of reasons. One the one hand, they can bring a fresh and dynamic impetus to the operation of the firm. Extensive experience and knowledge can also be introduced. On the other hand, because of their prestige in their profession and communities, independent directors are able to extract resources for successful company operations. Therefore, as pointed out in Chapter 5, the hypothesis is that *if other things being equal, the proportion of independent directors on board is positively related to corporate financial performance (H1a)*.

In addition, the effects of affiliated directors and board size on firm performance are examined. The associated hypothesis is that *if other things being equal, the proportion of affiliated directors on board and board size are negatively related to corporate financial performance (H1b and H2 respectively)*.

The above hypotheses are tested by using the following OLS regression model:

$$\begin{aligned} PerformanceMeasure_j = & \alpha + \beta_1 IND_j + \beta_2 AFFILIATED_j + \beta_3 BOARDSIZE_j + \\ & \sum_{i=1}^{11} \gamma_i ControlVariables_j + \sum_{m=1}^{15} \eta_m IndustryControl_j + \varepsilon_j \end{aligned} \quad (6.1)$$

Where Performance Measure_j is one of the two principal factors from PCA, IND is the

proportion of independent directors on board, AFFLIATED is the proportion of affiliated directors on board, and BOARDSIZE is the number of members on the board. Table 5.3 presents the 11 control variables. Industry Controls are dummy variables. This chapter employs these variables to control for industry effects on corporate performance of the sampled firms. The industry classification scheme used here is the one issued by the CSRC in 1999. Table 5.2 presents the industry classification for full sample. There are 15 industries. The primary coefficients of interest in Model 6.1 are β_1 , β_2 , and β_3 . As predicted by H1a, β_1 will be significantly positive, and as predicted by H1b and H2, β_2 and β_3 will be significantly negative.

Table 6.5 presents the findings based on Model 6.1. White-corrected t-statistics are reported in order to control for heteroskedasticity (White, 1980). One-tailed tests are used where there are specific predictions regarding the signs of the estimated coefficients (β_1 , β_2 , and β_3), otherwise two-tailed tests are employed.

Consistent with Fosberg (1989), Millstein and MacAvoy (1998), and Lasfer (2002), this paper finds relatively limited evidence that board independence has positive impacts on corporate performance in China. The Table 6.5 shows that when Per-Measure 1 is dependent variable, coefficient on IND is significant at 0.05 level, which supports H1a and the agency theory as discussed in Chapter 2. But when Per-Measure 2 is dependent variable, coefficient on IND is positive but not significant at traditional statistical level. Interestingly, using Chinese data, Tian and Lau (2001) even fail to find such positive correlation. However, Peng (2004) reports that independent directors do make a difference in firm performance, only if such performance is measured by sales growth, and that they have little impact on financial performance such as return on equity.

Contrary to the predictable hypotheses, none of the coefficients on AFFILIATED and BOARDSIZE is significantly negative for the two performance measures. Therefore, hypotheses H1b and H2 are rejected. This implies that there is no significantly negative correlation between the proportion of affiliated directors and firm performance, as found by Byrd and Hickman (1992), and Walsh and Seward (1990). However, Tian and Lau (2001) report that the higher the proportion of affiliated directors, the better corporate performance using Chinese firm sample. In addition, this study finds that there is no significantly negative correlation between board size and firm performance, as found by Yermack (1996), and Eisenberg et al. (1998).

[Table 6.5 goes about here]

Table 6.5 Board Composition and Corporate Performance

This table reports OLS regression results for the full sample. The sample consists of 291 companies listed on Shanghai Stock Exchange and Shenzhen Stock Exchange during 1999-2002. The dependent variables are: (1) Per-Measure 1 and (2) Per-Measure 2, principal measure factors derived from Principal Component Analysis from the six performance measures. The independent variables are: (1) IND, proportion of independent directors on board; (2) AFFILIATED, proportion of affiliated directors on board; (3) BOARDSIZE, the number of members on board; (4) MANSTOCK, proportion of equity ownership by senior managers; (5) MANCASH, ratio of cash compensation of senior managers to sales; (6) STATE, proportion of state owned equity ownership; (7) BIGGEST, proportion of equity ownership by the biggest shareholder; (8) FIRMSIZE, logarithm of book value of total assets; (9) LISTTIME, number of listing time; (10) DEBT, capital structure; (11) INVEST, investment opportunity, growth of total assets; (12) YEAR, year dummies; (13) SUPERSIZE, number of members on supervisory board; (14) INDSUPER, proportion of independent members on supervisory board. The regression results for industry controls are not reported in the table. For independent variables, IND, AFFILIATED, and BOARDSIZE, one-tail t-test is employed, and for other independent variables, two-tailed t-test is employed. ***, **, and * indicate significant at 1 percent, 5 percent, and 10 percent level, respectively.

$$PerformanceMeasure_j = \alpha + \beta_1 IND_j + \beta_2 AFFILIATED_j + \beta_3 BOARDSIZE_j +$$

$$\sum_{i=1}^{11} \gamma_i ControlVariables_j + \sum_{m=1}^{15} \eta_m IndustryControl_j + \varepsilon_j$$

	Per-Measure 1		Per-Measure 2	
	Coefficient	t	Coefficient	t
Intercept	0.847	0.888	-1.809	-1.893**
IND	0.196	1.959*	0.158	1.448
AFFILIATED	0.034	0.54	0.126	1.990**
BOARDSIZE	-0.05	-0.88	-0.093	-1.626*
MANSTOCK	0.136	2.538***	-0.052	-0.972
MANCASH	-0.519	-7.449***	0.531	7.616***
STATE	0.046	0.763	-0.029	-0.491
BIGGEST	0.046	0.805	0.048	0.846
FIRMSIZE	-0.032	-0.404	0.113	1.439
LISTTIME	-0.017	-0.293	-0.025	-0.428
DEBT	-0.018	-0.352	-0.002	-0.042
INVEST	0.012	0.233	0.114	2.208**
YEAR	0.014	0.276	-0.05	-0.989
SUPERSIZE	0.032	0.566	0.137	2.403**
INDSUPER	0.003	0.056	-0.147	-2.486***
Adj-R ²	0.353		0.350	
F-	6.648		6.588	

A possible reason for the above limited evidence that independent directors could improve corporate performance is that today's "independent" directors are not independent enough. Perhaps, as Gilson and Kraakman (1991, p865) argue, "corporate boards need directors who are not merely independent [of management], but who are *accountable* [to shareholders] as well." In China, as noted in the Chapter 4, the vast majority of independent directors are nominated and appointed by controlling shareholders and/or their watchdogs—managers. How can they be independent from management or controlling shareholders, how can they monitor opportunistic behavior of managers, and expropriation of controlling shareholders through creative ways, and how can they increase corporate performance by fulfilling their accountability and responsibility?

It is also plausible that some directors who are classified as being independent are not truly independent of management, because they are beholden to the company or its current CEO in ways too subtle to be captured in customary definitions of "independence." For example, some nominally independent directors may serve as paid advisors or consultants to a company in China, or may be employed by a university or foundation that receives financial support from the company. Unfortunately, the data needed to capture these relationships are not available from public sources.

Perhaps, too, some directors have personal relationships with the CEOs that affect their independence. This possibility is consistent with evidence that directors who were appointed during the current CEO's tenure are more generous in determining the CEO's compensation (Holthausen and Larcker, 1993a; Yermack, 1997). In China, it is even said that relationship or "Guan Xi" is able to decide everything. Independent directors

generally come from “old boys network” of the CEOs. They cannot challenge managers due to fearing to damage the relationship (Wei, 2002).

Thirdly, perhaps some types of independent directors are valuable, while others are not (Bhagat and Black, 2000). Maybe the majority of independent directors are too busy with their own business, and/or know too little about a different business of their appointing companies. Maybe “visibility” directors -- well-known persons with limited business experience, often holding multiple directorships and adding gender or racial diversity to a board, are not effective on average²⁰.

A fourth possibility, implicit in Klein’s (1998) research on board committee structures, is that independent directors can add value, but only if they are embedded in an appropriate committee structure. However, in China, most listed companies just have such committee structures —audit, compensation, strategic, and nominating committees—from 2002. Their monitoring and strategic functions are still expected.

A fifth possibility is that independent directors need to be better incentivized to fulfill their responsibility. As mentioned above, the level of compensation and equity ownership of independent directors in China is rather lower than in developed countries. The average annual cash compensation of them is only RMB 26,252 (about US\$3,201), and the maximum compensation is RMB 260, 000 (about US\$ 31,707). Independent directors hardly have any shares of their appointing companies. By contrast, in American companies, Bhagat and Black (2000) find that the average equity ownership held by independent directors is 2.80 percent and Ferris et al. (2004) even report a 5.84 percent. Brick et al. (2002) presents that mean annual cash compensation for independent

²⁰ But this explanation suggests that to push for greater board independence may be fruitless or even counterproductive, unless independent directors have particular attributes, which are currently unknown.

directors is US\$ 42,522 in US companies.

Lastly, as discussed in the Chapter 4, there are still no formal legal mechanisms on the protection of interests of independent directors. Under such circumstances, it is risky for independent directors to challenge controlling shareholders or their watchdogs. So, how can we believe independent directors are able to challenge powerful insiders and controlling shareholders?

6.4.2 Incentives of Independent Directors and Corporate Performance

Independent directors have recently been criticized for their failure to engage in active and effective management oversight that leads to better corporate performance (Fox and Opong, 1999). It has been suggested that substantial equity ownership by independent directors creates a personally-based incentive to actively monitor. Bhagat et al. (1999) argue that to increase monitoring effectiveness of independent directors, they must become a shareholder. As noted by Vance (1983) and Geneen (1984), by providing independent directors with a financial stake in the performance of firms through incentive-based compensation, firms can better align the interests of independent directors and shareholders.

The effects of incentives of independent directors on corporate performance are examined in the hypothesis that there is *a positive relationship between stock ownership and cash compensation of independent directors and corporate performance (H3)*. It is tested by using the following OLS regression model:

$$PerformanceMeasure_j = \alpha + \beta_1 INDSTOCK_j + \beta_2 INDCASH_j + \sum_{i=1}^{11} \gamma_i ControlVariables_j + \sum_{m=1}^{15} \eta_m IndustryControl_j + \varepsilon_j \quad (6.2)$$

Where INDSTOCK is the proportion of stock ownership by independent directors of company j, and INDCASH is average annual cash compensation of independent directors of company j. As hypothesized, β_1 and β_2 will be positive.

Table 6.6 presents the findings of Model 6.2. White-corrected t-statistics are reported in order to control for heteroskedasticity. One-tailed tests are used for those variables for which there are specific predictions regarding the sign of the estimated coefficients (β_1 and β_2), otherwise two-tailed tests are employed. As Fox and Opong (1999), and Bhagat and Black (2000), there is no any clear evidence that stock ownership and cash compensation of independent directors have any positive effects on corporate financial performance, regardless of using market-based or accounting-based measures. For two performance measures, β_1 and β_2 are not significantly positive at any traditional statistical level, which results in rejecting the hypothesis H3.

[Table 6.6 goes about here]

Table 6.6 Incentives of Independent Directors and Corporate Performance

This table reports OLS regression results for the full sample. The sample consists of 291 companies listed on Shanghai Stock Exchange and Shenzhen Stock Exchange during 1999-2002. The dependent variables are: (1) Per-Measure 1 and (2) Per-Measure 2, principal measure factors derived from Principal Component Analysis from the six performance measures. The independent variables are: (1) INDSTOCK, proportion of equity ownership by independent directors; (2) INDCASH, average cash compensation of independent directors; (3) MANSTOCK, proportion of equity ownership by senior managers; (4) MANCASH, ratio of cash compensation of senior managers to sales; (5) STATE, proportion of state owned equity ownership; (6) BIGGEST, proportion of equity ownership by the biggest shareholder; (7) FIRMSIZE, logarithm of book value of total assets; (8) LISTTIME, number of listing time; (9) DEBT, capital structure; (10) INVEST, investment opportunity, growth of total assets; (11) YEAR, year dummies; (12) SUPERSIZE, number of members on supervisory board; (13) INDSUPER, proportion of independent members on supervisory board. The regression results for industry controls are not reported in the table. For independent variables, INDSTOCK, and INDCASH, one-tail t-test is employed, and for other independent variables, two-tailed t-test is employed. ***, **, and * indicate significant at 1 percent, 5 percent, and 10 percent level, respectively.

$$PerformanceMeasure_j = \alpha + \beta_1 INDSTOCK_j + \beta_2 INDCASH_j + \sum_{i=1}^{11} \gamma_i ControlVariables_j + \sum_{m=1}^{15} \eta_m IndustryControl_j + \varepsilon_j$$

	Per-Measure 1		Per-Measure 2	
	Coefficient	t	Coefficient	t
Intercept	1.016	1.074	-1.296	-1.346
INDSTOCK	-0.009	-0.181	-0.047	-0.898
INDCASH	0.016	1.293	-0.066	-1.276
MANSTOCK	0.135	2.514***	-0.039	-0.722
MANCASH	-0.539	-7.783***	0.53	7.506
STATE	0.038	0.641	-0.025	-0.414
BIGGEST	0.058	1.035	0.052	0.905
FIRMSIZE	-0.059	-0.789	0.084	1.100
LISTTIME	-0.017	-0.299	-0.015	-0.261
DEBT	-0.003	-0.06	-0.011	-0.217
INVEST	0.018	0.347	0.14	2.714
YEAR	0.003	0.061	-0.053	-1.071
SUPERSIZE	0.002	0.038	0.117	2.074
INDSUPER	0.005	0.089	-0.126	-2.199
Adj-R ²	0.361		0.337	
F-	7.065		6.451	

It is usually argued that increase in the proportion of independent directors on board will improve monitoring effectiveness, and so do corporate performance (Fama, 1980, and Fama and Jensen, 1983). Therefore, other things being equal, the corporate performance is expected to increase as the level of INDSTOCK and INDCASH increase when proportion of independent directors is high. This is tested by using the following OLS regression model:

$$PerformanceMeasure_j = \alpha + \beta_1 INDSTOCK_j + \beta_2 INDCASH_j + \phi_1 INDSTOCK * IND_j + \phi_2 INDCASH * IND_j + \sum_{i=1}^{11} \gamma_i ControlVariables_j + \sum_{m=1}^{15} \eta_m IndustryControl_j + \varepsilon_j \quad (6.3)$$

Where $INDSTOCK*IND$ is interactive variable of $INDSTOCK$ and IND , and $INDCASH*IND$ is interactive variable of $INDCASH$ and IND . The primary coefficients of interest in Model 6.3 are ϕ_1 and ϕ_2 , which capture the impact of incentives of independent directors and size of board independence. It is predicted that both ϕ_1 and ϕ_2 will be significantly positive. In addition, β_1 and β_2 will be positive.

Table 6.7 reports the findings of Model 6.3. Again, as reported in Table 6.6, neither β_1 nor β_2 is significantly positive. There is strong evidence that corporate performance depends crucially on the interaction between the magnitude of cash compensation of independent directors and the size of them on board. For two combined performance proxies, ϕ_2 is positive and significant at level 0.01. However, there is no evidence that there is such an interactive effect of stock ownership of independent directors and the proportion of them on firm performance. Coefficients on $INDSTOCK*IND$ are all negative.

[Table 6.7 goes about here]

Table 6.7 Incentives of Independent Directors and Corporate Performance: Interactive Effect

This table reports OLS regression results for the full sample. The sample consists of 291 companies listed on Shanghai Stock Exchange and Shenzhen Stock Exchange during 1999-2002. The dependent variables are: (1) Per-Measure 1 and (2) Per-Measure 2, principal measure factors derived from Principal Component Analysis from the six performance measures. The independent variables are: (1) INDSTOCK, proportion of equity ownership by independent directors; (2) INDCASH, average cash compensation of independent directors; (3) INDSTOCK*IND, interactive variables of INDSTOCK and IND; (4) INDCASH*IND, interactive variables of INDCASH and IND (5) MANSTOCK, proportion of equity ownership by senior managers; (6) MANCASH, ratio of cash compensation of senior managers to sales; (7) STATE, proportion of state owned equity ownership; (8) BIGGEST, proportion of equity ownership by the biggest shareholder; (9) FIRMSIZE, logarithm of book value of total assets; (10) LISTTIME, number of listing time; (11) DEBT, capital structure; (12) INVEST, investment opportunity, growth of total assets; (13) YEAR, year dummies; (14) SUPERSIZE, number of members on supervisory board; (15) INDSUPER, proportion of independent members on supervisory board. The regression results for industry controls are not reported in the table. For independent variables, INDSTOCK, INDCASH, INDSTOCK*IND and INDCASH*IND, one-tail t-test is employed, and for other independent variables, two-tailed t-test is employed. ***, **, and * indicate significant at 1 percent, 5 percent, and 10 percent level, respectively.

$$PerformanceMeasure_j = \alpha + \beta_1 INDSTOCK_j + \beta_2 INDCASH_j + \phi_1 INDSTOCK * IND_j + \phi_2 INDCASH * IND_j + \sum_{i=1}^{11} \gamma_i ControlVariables_j + \sum_{m=1}^{15} \eta_m IndustryControl_j + \varepsilon_j$$

	Per-Measure 1		Per-Measure 2	
	Coefficient	t	Coefficient	t
Intercept	0.948	0.996	-1.460	-1.524
INDSTOCK	0.014	0.131	-0.318	-2.869***
INDCASH	0.017	0.255	0.015	0.224
INDSTOCK*IND	-0.073	-0.682	-0.174	-1.608*
INDCASH*IND	0.356	2.492***	0.384	2.524***
MANSTOCK	0.134	2.503***	-0.039	-0.727
MANCASH	-0.543	-7.806***	0.521	7.442***
STATE	0.033	0.553	-0.038	-0.63
BIGGEST	0.055	0.975	0.044	0.778
FIRMSIZE	-0.055	-0.728	0.093	1.232
LISTTIME	-0.014	-0.244	-0.007	-0.126
DEBT	-0.001	-0.018	-0.006	-0.124
INVEST	0.011	0.205	0.122	2.364**
YEAR	0.014	0.283	-0.024	-0.474
SUPERSIZE	0.018	0.313	0.157	2.709***
INDSUPER	-0.023	-0.360	-0.196	-3.102***
Adj-R ²	0.359		0.349	
F-	6.596		6.367	

6.4.3 Characteristics of Independent Directors and Corporate Performance

6.4.3.1 Primary Occupation

Baysinger and Butler (1985) claim that independent directors whose organizations have no conceivable economic affiliation with the firm have a more positive effect on performance than those whose organizations are economically interdependent, suggesting that appointments of neutral independent directors may be more beneficial than appointment of other corporate independent directors. Rosenstein and Wyatt (1990) argue that the fresh perspective provided by neutral independent directors might make them particularly valuable as board members, while contributions provided by managers of other corporations may be marginal for boards already composed primarily of professional managers. With respect to financial independent directors, Easterbrook (1984) contends that contributors of capital are very good monitors of management.

To explore the impact of independent directors occupation on performance (H4), the following OLS regression model is employed:

$$\begin{aligned} PerformanceMeasure_j = & \alpha + \beta_1 FINANCE_j + \beta_2 CPA_j + \beta_3 LAW_j + \beta_4 ACADEMIC_j \\ & \beta_5 GOVERNMENT_j + \beta_6 CORPORATE_j + \beta_7 NEUTRAL_j + \\ & \sum_{i=1}^{11} \gamma_i ControlVariables_j + \sum_{m=1}^{15} \eta_m IndustryControl_j + \varepsilon_j \end{aligned} \quad (6.4)$$

Where FINANCE is the proportion of those from financial institutions among independent directors, CPA is the proportion of those from CPAs among independent directors, LAW is the proportion of those from law firms among independent directors, ACADEMIC is the proportion of those from academic institutions among independent

directors, GOVERNMENT is the proportion of those from government departments or their affiliated institutions among independent directors, CORPORATE is the proportion of those from other corporations among independent directors, and NEUTRAL is the proportion of those with any primary affiliation other than the above among independent directors.

As noted above, β_1 , β_4 , and β_7 are predicted to be positive. But for independent directors from the other fields, such as LAW, CPA, ACADEMIC and GOVERNMENT, no specific predictions concerning either the sign or absolute magnitude of these variables is made because the benefits associated with such fields are not clear-cut.

Table 6.8 reports the findings of the Model 6.4. One-tailed tests are used for those variables for which there are specific predictions regarding the signs of their estimated coefficients (β_1 , β_6 and β_7), otherwise two-tailed tests are employed. Contradictory to Rosenstein and Wyatt (1990), Easterbrook (1984), and the resource dependence theory discussed in Chapter 2, this paper finds that coefficients on FINANCE, CORPORATE, and NEUTRAL are not significantly positive. Signs of other coefficients are mixed.

[Table 6.8 goes about here]

Table 6.8 Characteristics of Independent Directors and Corporate Performance: Primary Occupation Effects

This table reports OLS regression results for the full sample. The sample consists of 291 companies listed on Shanghai Stock Exchange and Shenzhen Stock Exchange during 1999-2002. The dependent variables are: (1) Per-Measure 1 and (2) Per-Measure 2, principal measure factors derived from Principal Component Analysis from the six performance measures. The independent variables are: (1) FINANCE, proportion of those from financial institutions among independent directors; (2) CPA, proportion of those from CPAs among independent directors; (3) LAW, proportion of those from law firms among independent directors; (4) ACADEMIC, proportion of those from academic institutions among independent directors; (5) GOVERNMENT, proportion of those from government departments or their affiliated institutions among independent directors; (6) CORPORATE, proportion of those from other corporations among independent directors; (7) NEUTRAL, proportion of those with any primary affiliation other than the above among independent directors; (8) MANCASH, ratio of cash compensation of senior managers to sales; (9) STATE, proportion of state owned equity ownership; (10) BIGGEST, proportion of equity ownership by the biggest shareholder; (11) FIRMSIZE, logarithm of book value of total assets; (12) LISTTIME, number of listing time; (13) DEBT, capital structure; (14) INVEST, investment opportunity, growth of total assets; (15) YEAR, year dummies; (16) SUPERSIZE, number of members on supervisory board; (17) INDSUPER, proportion of independent members on supervisory board. The regression results for industry controls are not reported in the table. For independent variables, FINANCE, CORPORATE, and NEUTRAL, one-tail t-test is employed, and for other independent variables, two-tailed t-test is employed. ***, **, and * indicate significant at 1 percent, 5 percent, and 10 percent level, respectively.

$$\begin{aligned} PerformanceMeasure_j = & \alpha + \beta_1 FINANCE_j + \beta_2 CPA_j + \beta_3 LAW_j + \beta_4 ACADEMIC_j \\ & \beta_5 GOVERNMENT_j + \beta_6 CORPORATE_j + \beta_7 NEUTRAL_j + \\ & \sum_{i=1}^{11} \gamma_i ControlVariables_j + \sum_{m=1}^{15} \eta_m IndustryControl_j + \varepsilon_j \end{aligned}$$

	Per-Measure 1		Per-Measure 2	
	Coefficient	t	Coefficient	t
Intercept	2.219	1.780*	0.563	0.447
FINANCE	-0.076	-1.147	0.030	0.444
CPA	0.011	0.202	-0.084	-1.463
LAW	-0.078	-1.225	-0.106*	-1.640
ACADEMIC	-0.128	-1.092	-0.232**	-1.947
GOVERNMENT	-0.193	-3.017***	-0.044	-0.673
CORPORATE	-0.085	-0.872	-0.198**	-2.000
NEUTRAL	-0.137	-1.720*	-0.202***	-2.504
MANSTOCK	0.142	2.613***	-0.051	-0.925
MANCASH	-0.53	-7.580***	0.485***	6.845
STATE	0.057	0.947	-0.039	-0.637
BIGGEST	0.07	1.234	0.058	1.014
FIRMSIZE	-0.015	-0.196	0.052	0.683
LISTTIME	-0.055	-0.904	-0.042	-0.679
DEBT	-0.018	-0.355	0.004	0.071
INVEST	0.033	0.637	0.146***	2.815
YEAR	-0.026	-0.516	-0.076	-1.491
SUPERSIZE	0.026	0.454	0.106	1.841
INDSUPER	0.033	0.559	-0.129**	-2.149
Adj-R ²	0.365		0.350	
F-	6.216		5.872	

6.4.3.2 Education Background

Overall, there are few empirical studies to directly test the effects of education background of independent directors on corporate financial performance. Norburn (1986) finds that independent directors in growth industries are characterized by nine different factors, such as good education background and high international exposure. In this chapter, the following OLS regression model is used to examine the impact of education background on corporate performance (H4):

$$\begin{aligned} PerformanceMeasure_j = & \alpha + \beta_1 INEDUCATION_j + \beta_2 PHD_j + \beta_3 MASTER_j + \\ & \beta_4 BACHELOR_j + \beta_5 OTHER_j + \beta_6 OVERSEAS_j + \\ & \sum_{i=1}^{11} \gamma_i ControlVariables_j + \sum_{m=1}^{15} \eta_m IndustryControl_j + \varepsilon_j \end{aligned} \quad (6.5)$$

Where INEDUCATION is average degree scores of independent directors of a given firm. When the degree of independent director is PhD, the degree score is 9, Master degree is 6, Bachelor is 3, and other degree is 1, PHD is the proportion of those who own PhD degree among independent directors, MASTER is the proportion of those who own Master degree among independent directors, BACHELOR is the proportion of those who own Bachelor degree among independent directors, OTHER is proportion of those who own degree other than above among independent directors, and OVERSEAS is the proportion of those who have studied or worked overseas more than one year among independent directors.

The primary coefficient of interest in the Model 6.5 is β_1 . As predicted, β_1 will be significantly positive. As for other specific education background variables, no specific predictions are offered concerning the signs because their impacts on firm

performance are not clear-cut. Table 6.9 reports the findings of Model 6.5. One-tailed tests are used where appropriate, otherwise two-tailed tests are employed. No clear evidence is found that there is any positive effect of overall and specific education backgrounds on firm performance. No coefficient of any education variables is significantly positive at any traditional statistic level. However, I find that the presence of overseas independent directors has significantly positive impacts on corporate performance. The t-statistics on coefficients of OVERSEAS are 2.628 and 2.914 when Per-Measure 1 and Per-Measure 2 as dependent variables respectively and all significant at 0.01 level (one-tailed test).

[Table 6.9 goes about here]

Table 6.9 Characteristics of Independent Directors and Corporate Performance: Education Background Effects

This table reports OLS regression results for the full sample. The sample consists of 291 companies listed on Shanghai Stock Exchange and Shenzhen Stock Exchange during 1999-2002. The dependent variables are: (1) Per-Measure 1 and (2) Per-Measure 2, principal measure factors derived from Principal Component Analysis from the six performance measures. The independent variables are: (1) INDEDUCATION, average degree scores of independent directors of a given firm. When degree of independent director is PhD, the degree score of him is 9, Master degree is 6, Bachelor is 3, and other degree is 1; (2) PHD, proportion of those who own PhD degree among independent directors; (3) MASTER, proportion of those who own Master degree among independent directors; (4) BACHELOR, proportion of those who own Bachelor degree among independent directors; (5) OTHER, proportion of those who own degree other than above among independent directors; (6) OVERSEAS, proportion of those who have studied or worked overseas more than one year among independent directors; (7) MANCASH, ratio of cash compensation of senior managers to sales; (8) STATE, proportion of state owned equity ownership; (9) BIGGEST, proportion of equity ownership by the biggest shareholder; (10) FIRMSIZE, logarithm of book value of total assets; (11) LISTTIME, number of listing time; (12) DEBT, capital structure; (13) INVEST, investment opportunity, growth of total assets; (14) YEAR, year dummies; (15) SUPERSIZE, number of members on supervisory board; (16) INDSUPER, proportion of independent members on supervisory board. The regression results for industry controls are not reported in the table. For independent variable, IND, and EDUCATION, one-tail t-test is employed, and for other independent variables, two-tailed t-test is employed. ***, **, and * indicate significant at 1 percent, 5 percent, and 10 percent level, respectively.

$$PerformanceMeasure_j = \alpha + \beta_1 INDEDUCATION_j + \beta_2 PHD_j + \beta_3 MASTER_j + \beta_4 BACHELOR_j + \beta_5 OTHER_j + \beta_6 OVERSEAS_j + \sum_{i=1}^{11} \gamma_i ControlVariables_j + \sum_{m=1}^{15} \eta_m IndustryControl_j + \varepsilon_j$$

	Per-Measure 1		Per-Measure 2	
	Coefficient	t	Coefficient	t
Intercept	1.963	1.345	-1.265	-0.857
INDEDUCATION	0.204	0.584	-0.292	-1.46
PHD	0.108	0.365	0.465	1.315
MASTER	-0.092	-0.333	0.245	0.816
BACHELOR	-0.101	-0.835	0.12	0.43
OTHER	0.062	1.172	-0.037	-0.302
OVERSEAS	0.140	2.628***	0.184	2.914***
MANSTOCK	-0.559	-7.809***	-0.049	-0.906
MANCASH	0.063	1.062	0.543	7.497***
STATE	0.056	0.990	-0.034	-0.564
BIGGEST	-0.07	-0.916	0.072	1.258
FIRMSIZE	-0.005	-0.092	0.09	1.166
LISTTIME	-0.023	-0.446	-0.025	-0.42
DEBT	0.015	0.299	0.002	0.038
INVEST	0.009	0.185	0.116	2.219**
YEAR	0.010	0.176	-0.041	-0.817
SUPERSIZE	0.036	0.620	0.09	1.542
INDSUPER	0.204	0.584	-0.126	-2.179**
Adj-R ²	0.358		0.343	
F-	6.226		5.889	

6.4.3.3 Age and Gender

Kesner (1988) shows strong evidence to suggest that gender of independent directors of four sub-committees on board does differ in rather significant ways from that of corporate boards in general. Bilimoria and Piderit (1994) report that after experienced characteristics are controlled, male directors have a higher likelihood of being compensation committee membership than female directors. Norburn (1986) also documents that independent directors with younger age are related to growth industries. Unfortunately, there are also few studies directly examining effects of age and gender of independent directors on corporate performance. Thus, in order to examine the impact of these two variables, the following OLS regression model is used:

$$\begin{aligned} PerformanceMeasure_j = & \alpha + \beta_1 INDAGE_j + \beta_2 GENDER_j + \\ & \sum_{i=1}^{11} \gamma_i ControlVariables_j + \sum_{m=1}^{15} \eta_m IndustryControl_j + \varepsilon_j \end{aligned} \quad (6.6)$$

Where INDAGE is the average age of independent directors on board, and GENDER is a dummy variable, which is equal to one when there is at least one female independent directors on board, and zero otherwise.

The primary coefficients of interest in the Model 6.6 are β_1 and β_2 . However, due to the lack of previous studies on their impacts on performance, no specific prediction is offered concerning the signs of them. Table 6.10 presents the results of the Model 6.6. No significant relationship between age of independent directors and corporate financial performance is found. Interestingly, I find that coefficients on GENDER are negative and significantly at 0.01 level. This evidence implies that existing of female independent directors on board is bad news on corporate financial performance.

Overall, there is no clear and confirmative evidence that characteristics of independent directors, such as primary occupation, education background, and age have any significantly positive impact on corporate market-based or accounting-based performance measures, which results in rejecting the hypothesis H4. But there is strong evidence that existence of female independent directors on board has negative impact on firm performance, and there is significantly positive relationship between the proportion of overseas independent directors and corporate performance.

[Table 6.10 goes about here]

Table 6.10 Characteristics of Independent Directors and Corporate Performance: Age and Gender Effects

This table reports OLS regression results for the full sample. The sample consists of 291 companies listed on Shanghai Stock Exchange and Shenzhen Stock Exchange during 1999-2002. The dependent variables are: (1) Per-Measure 1 and (2) Per-Measure 2, principal measure factors derived from Principal Component Analysis from the six performance measures. The independent variables are: (1) INDAGE, average age of independent directors on board; (2) GENDER, equal to one if there is at least one of independent directors who is female, and zero otherwise; (3) MANSTOCK, proportion of equity ownership by senior managers; (4) MANCASH, ratio of cash compensation of senior managers to sales; (5) STATE, proportion of state owned equity ownership; (6) BIGGEST, proportion of equity ownership by the biggest shareholder; (7) FIRMSIZE, logarithm of book value of total assets; (8) LISTTIME, number of listing time; (9) DEBT, capital structure; (10) INVEST, investment opportunity, growth of total assets; (11) YEAR, year dummies; (12) SUPERSIZE, number of members on supervisory board; (13) INDSUPER, proportion of independent members on supervisory board. The regression results for industry controls are not reported in the table. ***, **, and * indicate significant at 1 percent, 5 percent, and 10 percent level, respectively (two-tail tests).

$$PerformanceMeasure_j = \alpha + \beta_1 INDAGE_j + \beta_2 GENDER_j + \sum_{i=1}^{11} \gamma_i ControlVariables_j + \sum_{m=1}^{15} \eta_m IndustryControl_j + \varepsilon_j$$

	Per-Measure 1		Per-Measure 2	
	Coefficient	t	Coefficient	t
Intercept	1.016	1.080	-1.427	-1.480
INDAGE	-0.022	-0.403	-0.036	-0.633
GENDER	-0.155	-3.084***	-0.123	-2.802***
MANSTOCK	0.123	2.327**	-0.053	-0.984
MANCASH	-0.49	-7.122***	0.534	7.579***
STATE	0.064	1.08	-0.021	-0.343
BIGGEST	0.037	0.65	0.053	0.904
FIRMSIZE	-0.021	-0.281	0.094	1.22
LISTTIME	-0.02	-0.355	-0.019	-0.324
DEBT	-0.029	-0.579	-0.014	-0.265
INVEST	0.013	0.252	0.123	2.363**
YEAR	-0.012	-0.251	-0.061	-1.216
SUPERSIZE	-0.008	-0.149	0.1	1.750*
INDSUPER	0.039	0.71	-0.127	-2.244**
Adj-R ²	0.371		0.339	
F-	7.340		6.519	

6.4.4 Board Structure and Corporate Performance

Jensen (1993) points out that when a CEO holds the position of the chairman, internal control systems fail and the board cannot effectively perform its key function. A number of studies have documented that there is a significantly negative correlation between CEO duality and firm performance (e.g., Rechner and Dalton, 1991; Dalton et al., 1998; Goyal and Park, 2002). This impact, as indicated in Chapter 5, is captured in the Hypothesis 5 that *ceteris paribus, CEO duality is likely to be negatively related to firm performance.*

Core et al. (1999) and Shivdasani and Yermack (1999) suggest that directors can become over-committed when serving on multiple boards, rendering them unable to provide meaningful managerial monitoring. CSRC (2001) also limits Chinese independent directorships to the maximum of five. Thus, the primary prediction is that *multiple directorships are negatively related to the performance of Chinese listed companies (H6).*

Finally, the relationship between auditing committee and corporate performance is tested. However, most of current studies focus on examining monitoring role of auditing committee on corporate earnings management or manipulation (for example, Peasnell et al., 2000; Xie et al., 2001; Chtourou et al., 2001). This paper also wants to examine the effects of auditing committee on firm performance. The following OLS regression model is used to test the above two hypotheses:

$$PerformanceMeasure_j = \alpha + \beta_1 CEODUALITY_j + \beta_2 MULTIDIR_j + \beta_3 AUDITING_j +$$

$$\sum_{i=1}^{11} \gamma_i ControlVariables_j + \sum_{m=1}^{15} \eta_m IndustryControl_j + \varepsilon_j \quad (6.7)$$

Where CEODUALITY is a dummy variable, which is equal to one if CEO is also chairman on board, and zero otherwise, MULTI is the maximum number of directorships held by one member of board, and AUDTING is a dummy variable, which is equal to one if there is an auditing committee on board, and zero otherwise. The primary coefficients of interest in the Model 6.7 are β_1 , β_2 , and β_3 . If, as predicted by H5 and H6, β_1 and β_2 are negative, and as predicted by above argument, β_3 is positive.

Table 6.11 reports the findings of Model 6.7. One-tailed tests are used where appropriate (β_1 , β_2 , and β_3), otherwise two-tailed tests are employed. As Jarrell et al. (1988), Fromson (1990), Hersch and McDougall, and Baliga et al. (1996), there is no clear evidence that CEO duality has any negative impact on corporate financial performance, which rejects H5. However, Tian and Lau (2001), and Peng (2004) report contradictory evidence. Furthermore, I find strong evidence that there is a significantly negative relationship between multi-directorship and firm financial performance. Coefficients on MULTI are negative and significant at 0.01 level. Similarly, there is limited evidence that auditing committee has significantly positive impact on corporate performance. β_3 is positive and significant at 0.01 level when only Per-Measure 2 as dependent variable.

[Table 6.11 goes about here]

Table 6.11 Board Structure and Corporate Performance

This table reports OLS regression results for the full sample. The sample consists of 291 companies listed on Shanghai Stock Exchange and Shenzhen Stock Exchange during 1999-2002. The dependent variables are: (1) Per-Measure 1 and (2) Per-Measure 2, principal measure factors derived from Principal Component Analysis from the six performance measures. The independent variables are: (1) CEODUALITY, equal to one if CEO is also chairman on board, and zero otherwise; (2) MULTINDIR, the maximum number of directorships held by one member of board; (3) AUDITING, equal to one if there is an auditing committee on board, and zero otherwise (4) MANSTOCK, proportion of equity ownership by senior managers; (5) MANCASH, ratio of cash compensation of senior managers to sales; (6) STATE, proportion of state owned equity ownership; (7) BIGGEST, proportion of equity ownership by the biggest shareholder; (8) FIRMSIZE, logarithm of book value of total assets; (9) LISTTIME, number of listing time; (10) DEBT, capital structure; (11) INVEST, investment opportunity, growth of total assets; (12) YEAR, year dummies; (13) SUPERSIZE, number of members on supervisory board; (14) INDSUPER, proportion of independent members on supervisory board. The regression results for industry controls are not reported in the table. For independent variables, CEODUALITY, MULTINDIR, and AUDITING, one-tail t-test is employed, and for other independent variables, two-tailed t-test is employed. ***, **, and * indicate significant at 1 percent, 5 percent, and 10 percent level, respectively.

$$PerformanceMeasure_j = \alpha + \beta_1 CEODUALITY_j + \beta_2 MULTINDIR_j + \beta_3 AUDITING_j + \sum_{i=1}^{11} \gamma_i ControlVariables_j + \sum_{m=1}^{15} \eta_m IndustryControl_j + \varepsilon_j$$

	Per-Measure 1		Per-Measure 2	
	Coefficient	t	Coefficient	t
Intercept	0.962	1.001	-1.433	-1.466
CEODUALITY	-0.026	-0.512	-0.046	-0.916
MULTINDIR	-0.089	-1.996**	-0.148	-2.926***
AUDITING	0.026	0.484	0.123	2.416**
MANSTOCK	0.140	2.607***	-0.040	-0.735
MANCASH	-0.511	-7.389***	0.523	7.427***
STATE	0.047	0.800	-0.035	-0.574
BIGGEST	0.040	0.697	0.048	0.832
FIRMSIZE	-0.050	-0.656	0.066	0.856
LISTTIME	-0.018	-0.302	-0.022	-0.373
DEBT	-0.015	-0.291	-0.001	-0.017
INVEST	0.014	0.282	0.129	2.472***
YEAR	0.019	0.381	-0.042	-0.831
SUPERSIZE	0.011	0.191	0.111	1.948**
INDSUPER	0.018	0.319	-0.133	-2.272**
Adj-R ²	0.355		0.333	
F-	6.694		6.163	

6.4.5 Frequency of Board Meetings and Corporate Performance

As noted in Chapter 5, if a higher level of board activity facilitates better board monitoring, independent directors are likely to demand more board meetings to enhance their ability to monitor management (Cotter et al., 1997). Similarly, Conger et al. (1998) suggest that board meeting time is an important resource in improving the effectiveness of a board. Therefore, the primary prediction is that *the frequency of board meetings is positively related to the performance of Chinese listed companies (H7)*. In order to test this prediction, the following OLS regression model is employed:

$$\begin{aligned} PerformanceMeasure_j = & \alpha + \beta_1 MEETING_j + \sum_{i=1}^{11} \gamma_i ControlVariables_j \\ & + \sum_{m=1}^{15} \eta_m IndustryControl_j + \varepsilon_j \end{aligned} \quad (6.8)$$

Where MEETING is the frequency of board meeting in one fiscal year of company j. The variable of interest in Model 6.8 is β_1 . As predicted by H7, β_1 will be significantly positive.

Table 6.12 reports the findings of Model 6.8. One-tailed tests are used where appropriate (β_1), otherwise two-tailed tests are employed. Contrary to the prediction, there is no significantly positive correlation between the frequency of board meeting and corporate financial performance. This evidence rejects the hypothesis H6.

[Table 6.12 goes about here]

Table 6.12 Board Process and Corporate Performance

This table reports OLS regression results for the full sample. The sample consists of 291 companies listed on Shanghai Stock Exchange and Shenzhen Stock Exchange during 1999-2002. The dependent variables are: (1) Per-Measure 1 and (2) Per-Measure 2, principal measure factors derived from Principal Component Analysis from the six performance measures. The independent variables are: (1) MEETING, number of board meetings in one fiscal year; (2) MANSTOCK, proportion of equity ownership by senior managers; (3) MANCASH, ratio of cash compensation of senior managers to sales; (4) STATE, proportion of state owned equity ownership; (5) BIGGEST, proportion of equity ownership by the biggest shareholder; (6) FIRMSIZE, logarithm of book value of total assets; (7) LISTTIME, number of listing time; (8) DEBT, capital structure; (9) INVEST, investment opportunity, growth of total assets; (10) YEAR, year dummies; (11) SUPERSIZE, number of members on supervisory board; (12) INDSUPER, proportion of independent members on supervisory board. The regression results for industry controls are not reported in the table. For independent variable, MEETING, one-tail t-test is employed, and for other independent variables, two-tailed t-test is employed. ***, **, and * indicate significant at 1 percent, 5 percent, and 10 percent level, respectively.

$$PerformanceMeasure_j = \alpha + \beta_1 MEETING_j + \sum_{i=1}^{11} \gamma_i ControlVariables_j + \sum_{m=1}^{15} \eta_m IndustryControl_j + \varepsilon_j$$

	Per-Measure 1		Per-Measure 2	
	Coefficient	t	Coefficient	t
Intercept	1.137	1.208	-1.394	-1.461
MEETING	-0.073	-1.383	-0.065	-1.215
MANSTOCK	0.131	2.452**	-0.051	-0.947
MANCASH	-0.515	-7.450***	0.520***	7.423
STATE	0.041	0.684	-0.041	-0.683
BIGGEST	0.040	0.714	0.047	0.825
FIRMSIZE	-0.037	-0.496	0.082	1.074
LISTTIME	-0.020	-0.348	-0.021	-0.353
DEBT	-0.007	-0.133	0.004	0.078
INVEST	0.025	0.490	0.134***	2.596
YEAR	-0.015	-0.300	-0.067	-1.315
SUPERSIZE	0.011	0.195	0.114**	2.015
INDSUPER	0.032	0.574	-0.129**	-2.272
Adj-R ²	0.355		0.337	
F-	7.145		6.658	

Baysinger and Butler (1985) and Millstein and MacAvoy (1998) document that firms with more independent directors perform significantly better than other companies in general. Millstein and MacAvoy (1998) also report that there is a substantial and statistically significant correlation between an active, independent board and superior corporate performance. Therefore, it is natural to predict that the higher the proportion of independent directors, the higher the frequency of board meetings, the better a firm performs. In order to test this prediction, the following OLS regression model is used:²¹

$$PerformanceMeasure_j = \alpha + \beta_1 MEETING * IND_j + \sum_{i=1}^{11} \gamma_i ControlVariables_j + \sum_{m=1}^{15} \eta_m IndustryControl_j + \varepsilon_j \quad (7.9)$$

Where MEETING*IND is interactive variable of MEETING and IND. The variable of interest is β_1 . According to the above prediction, β_1 should be significantly positive.

Table 6.13 reports findings of Model 6.9. One-tailed tests are used for β_1 , otherwise two-tailed tests are employed. There is strong evidence that firm performance depends crucially on interaction between the frequency of board meeting and the size of independent directors appointed. Coefficients on MEETING*IND are positive and significant at 0.01 level (one-tailed test).

[Table 6.13 goes about here]

²¹ The reason the variable MEETING is not included in the model 7.9 is because there is quite high correlation between MEETING and MEETING*IND (Spearman correlation coefficient= 0.805) which will result in serious problem of multicollinearity.

Table 6.13 Board Process and Corporate Performance: Interactive Effect

This table reports OLS regression results for the full sample. The sample consists of 291 companies listed on Shanghai Stock Exchange and Shenzhen Stock Exchange during 1999-2002. The dependent variables are: (1) Per-Measure 1 and (2) Per-Measure 2, principal measure factors derived from Principal Component Analysis from the six performance measures. The independent variables are: (1) MEETING*IND, interactive variable of MEETING and IND; (2) MANSTOCK, proportion of equity ownership by senior managers; (3) MANCASH, ratio of cash compensation of senior managers to sales; (4) STATE, proportion of state owned equity ownership; (5) BIGGEST, proportion of equity ownership by the biggest shareholder; (6) FIRMSIZE, logarithm of book value of total assets; (7) LISTTIME, number of listing time; (8) DEBT, capital structure; (9) INVEST, investment opportunity, growth of total assets; (10) YEAR, year dummies; (11) SUPERSIZE, number of members on supervisory board; (12) INDSUPER, proportion of independent members on supervisory board. The regression results for industry controls are not reported in the table. For independent variable, MEETING*IND, one-tail t-test is employed, and for other independent variables, two-tailed t-test is employed. ***, **, and * indicate significant at 1 percent, 5 percent, and 10 percent level, respectively.

$$PerformanceMeasure_j = \alpha + \beta_1 MEETING * IND_j + \sum_{i=1}^{11} \gamma_i ControlVariables_j + \sum_{m=1}^{15} \eta_m IndustryControl_j + \varepsilon_j$$

	Per-Measure 1		Per-Measure 2	
	Coefficient	t	Coefficient	t
Intercept	1.017	1.075	-1.499	-1.563
MEETING*IND	0.139	2.592***	0.125	2.444***
MANSTOCK	0.138	2.570***	-0.045	-0.830
MANCASH	-0.521	-7.523***	0.514	7.319***
STATE	0.049	0.831	-0.033	-0.557
BIGGEST	0.05	0.889	0.056	0.976
FIRMSIZE	-0.051	-0.673	0.07	0.919
LISTTIME	-0.015	-0.251	-0.016	-0.268
DEBT	-0.02	-0.388	-0.007	-0.142
INVEST	0.024	0.472	0.133	2.568***
YEAR	0.010	0.202	-0.045	-0.863
SUPERSIZE	0.017	0.307	0.119	2.078**
INDSUPER	0.017	0.283	-0.142	-2.377**
Adj-R ²	0.351		0.333	
F-	7.039		6.577	

6.4.6 Sources of Directors and Corporate Performance

Williamson (1985) and Shleifer and Vishny (1994) argue that government shareholders are generally less efficient than private shareholders to monitor managers. Xu and Wang (1999) and Wang (2003) find that there is negative correlation between the fraction of state shares and Chinese firms' profitability. Based on their argument, as showed in the Chapter 5, the hypothesis is that *the higher the proportion of directors appointed by government agent shareholders, the worse company performance (H8)*.

Wang (2003) argues that, compared with government agent shareholders, state-owned corporate shareholders have less government interference, and their first and foremost objective is to maximize state-owned assets under their control. At the same time, several studies find that firms' profitability is positively correlated with the fraction of SOE legal person shares (Xue, 2000, and Li, 2003). Therefore, the primary prediction is that *the higher the proportion of directors appointed by state-owned corporate shareholders, the better the company performance (H9)*. In order to test these two hypotheses, the following OLS regression model is employed:

$$PerformanceMeasure_j = \alpha + \beta_1 GOVDIRECTOR_j + \beta_2 SOEDIRECTOR_j + \sum_{i=1}^{11} \gamma_i ControlVariables_j + \sum_{m=1}^{15} \eta_m IndustryControl_j + \varepsilon_j \quad (6.10)$$

Where GOVDIRECTOR is the proportion of directors appointed by government agents control shareholders, and SOEDIRECTOR the proportion of directors appointed by SOE control shareholders. Variables of interest in Model 6.10 are β_1 and β_2 . As predicted by H8 and H9, β_1 should be significantly negative, and β_2 significantly positive respectively.

Table 6.14 reports the findings of Model 6.10. One-tailed tests are used for β_1 and β_2 , otherwise two-tailed tests are employed. No clear evidence is found that proportion of directors appointed by government agents control shareholders has negative impact on corporate performance. None of β_1 is significantly negative, which rejects the hypothesis H8. Interestingly, the sign of β_2 is contrary to the prediction, and it is negative and significant at 0.05 level. This evidence implies that the higher the proportion of directors appointed by SOE control shareholders, the worse the corporate performance, which also rejects the hypothesis H9.

[Table 6.14 goes about here]

Table 6.14 Sources of Directors and Corporate Performance

This table reports OLS regression results for the full sample. The sample consists of 291 companies listed on Shanghai Stock Exchange and Shenzhen Stock Exchange during 1999-2002. The dependent variables are: (1) Per-Measure 1 and (2) Per-Measure 2, principal measure factors derived from Principal Component Analysis from the six performance measures. The independent variables are: (1) GOVDIRECTOR, proportion of directors appointed by government agents control shareholders; (2) SOEDIRECTOR, proportion of directors appointed by SOEs control shareholders; (3) MANSTOCK, proportion of equity ownership by senior managers; (4) MANCASH, ratio of cash compensation of senior managers to sales; (5) STATE, proportion of state owned equity ownership; (6) BIGGEST, proportion of equity ownership by the biggest shareholder; (7) FIRMSIZE, logarithm of book value of total assets; (8) LISTTIME, number of listing time; (9) DEBT, capital structure; (10) INVEST, investment opportunity, growth of total assets; (11) YEAR, year dummies; (12) SUPERSIZE, number of members on supervisory board; (13) INDSUPER, proportion of independent members on supervisory board. The regression results for industry controls are not reported in the table. For independent variables, GOVDIRECTOR, and SOEDIRECTOR, one-tail t-test is employed, and for other independent variables, two-tailed t-test is employed. ***, **, and * indicate significant at 1 percent, 5 percent, and 10 percent level, respectively.

$$PerformanceMeasure_j = \alpha + \beta_1 GOVDIRECTOR_j + \beta_2 SOEDIRECTOR_j + \sum_{i=1}^{11} \gamma_i ControlVariables_j + \sum_{m=1}^{15} \eta_m IndustryControl_j + \varepsilon_j$$

	Per-Measure 1		Per-Measure 2	
	Coefficient	t	Coefficient	t
Intercept	1.252	1.325	-1.250	-1.293
GOVDIRECTOR	-0.043	-0.835	-0.07	-1.321
SOEDIRECTOR	-0.124	-2.205**	-0.107	-2.114**
MANSTOCK	0.136	2.577***	-0.046	-0.855
MANCASH	-0.517	-7.397***	0.5	6.993***
STATE	0.034	0.575	-0.042	-0.698
BIGGEST	0.008	0.132	0.045	0.762
FIRMSIZE	-0.061	-0.821	0.063	0.827
LISTTIME	-0.026	-0.440	-0.012	-0.210
DEBT	-0.013	-0.262	-0.004	-0.078
INVEST	0.031	0.606	0.134	2.594***
YEAR	-0.011	-0.219	-0.054	-1.086
SUPERSIZE	0.011	0.202	0.118	2.090**
INDSUPER	0.043	0.760	-0.137	-2.388**
Adj-R ²	0.364		0.335	
F-	7.149		6.413	

6.5 Robustness Tests

6.5.1 Endogeneity Test

Barnhart et al. (1994), John and Senbet (1998), and Bhagat and Black (2002) argue that board composition could affect firm performance, but firm performance could also affect the firm's board composition. Several researchers have examined whether board composition is endogenously related to firm performance, however, with inconsistent results. Hermalin and Weisbach (1988) and Weisbach (1988) report that the proportion of independent directors on large firm boards increases slightly when a company has performed poorly: firms in the bottom performance decile in year X increase their proportion of independent directors by around 1 percent in year $X+1$, relative to other firms, during 1972-1983. In contrast, Klein (1998) finds no tendency for firms in the bottom quintile for 1991 stock price returns to add more independent directors in 1992 and 1993 than firms in the top quintile. Denis and Sarin (1999) report that firms that substantially increase their proportion of independent directors had *above-average* stock price returns in the previous year. They also report that average board composition for a group of firms changes slowly over time and that board composition tends to regress to the mean, with firms with a high (low) proportion of independent directors reducing (increasing) this percentage over time.

Therefore, as argued above, if board composition is endogenous, the above ordinary least squares (OLS) coefficient estimates can be biased. Therefore, as suggested in Maddala (1992, p. 395), I perform an omitted-variable version of the Hausman specification test to investigate the endogeneity of board independence measure (IND) used in the analysis. First, following Bhagat and Black (2000), I introduce the proportion

of equity ownership of CEO (STOCKCEO) as instrument variable. Second, I replace IND with its instrument in the probit model to regenerate the inverse Mill's ratio for the volume model use. Third, I regress IND on all the exogenous variables including the inverse Mill's ratio to derive fitted values as its refined instrument. Fourth, I estimate the volume decision model by regressing two performance measures on the IND, STOCKCEO, and other variables. I then conduct an F-test with a null hypothesis that the coefficients of the instrument variable are jointly zero. The computed F-statistic (1.592) is insignificant at the 0.10 level (one-tailed). Therefore, I find no evidence to reject the null hypothesis that IND is contemporaneously uncorrelated with the error term. In other words, simultaneous-equation bias is unlikely to be a serious problem in this study.

As recommended by Kennedy (1998, p. 98), I also perform a Ramsey's regression specification error test (RESET) to examine whether my model suffered from functional misspecification error and/or omitted variable bias. I regressed the residuals from the volume model on the independent variables and the square/cubic of the fitted dependent variable. The null hypothesis of no omitted variables cannot be rejected at the 0.10 level or less ($F = 1.891$, one-tailed). Kennedy (1998) further reports that the RESET test is useful for detecting nonlinearity in the data. The lack of significance of the RESET statistic, however, suggested that the linear specification that I adopted in this study is appropriate.

6.5.2 Results of Panel Data: Random-Effects Model

There are two estimation techniques for panel data, the fixed-effects model and the random-effects model. As noted by Hsiao (1985), the former treats omitted firm-specific

variables as constant over time; in contrast, the latter treats firm-specific factors as random. I do not employ a fixed-effects model in the current study because our measure of industry dummies is time-invariant and they will cause multicollinearity with time invariant fixed-effects. In addition, Hsiao (1985) documents that the random effect model is more appropriate for inference purposes.

I conducted Breusch and Pagan (BP) Lagrange Multiplier (LM) tests to examine the relative efficiency of the heterogeneous random-effects estimation against a homogeneous pooled ordinary least squares (OLS) model. The resulting chi-square (χ^2) statistics (ranging from 288 to 1027) were significant at the 0.01 level. A Baltagi-Li form of LM test also yielded the same result. This suggests a random-effects panel model may be more efficient than an OLS analysis.

Overall, the findings of the random-effect model are broadly consistent with those for OLS regression model although the level of significance is slightly lower or different for several variables.

6.5.3 Tests of Curvilinear Effect

6.5.3.1 Nonlinear Relationship between Board Composition and Firm Performance

Noe and Rebello (1996), and Byrd and Hickman (1992) document that it could be valuable to have more independent than inside directors. Weisbach (1988), and Cotter et al. (1997) even find that a 60 percent supermajority of independent directors are best beneficial to corporate performance. Therefore, one should wonder whether there is a possible nonlinear relationship between board composition and firm performance. At the same time, this section also attempts to test curvilinear effects of the proportion of

affiliated directors and board size on performance. To test this prediction, the following OLS regression model is employed:

$$\begin{aligned} PerformanceMeasure_j = & \alpha + \delta_1 IND_j + \delta_2 AFFILIATED_j + \delta_3 BOARDSIZE_j + \\ & \beta_1 IND^2_j + \beta_2 AFFILIATED^2_j + \beta_3 BOARDSIZE^2_j + \sum_{i=1}^{11} \gamma_i ControlVariables_j \\ & + \sum_{m=1}^{15} \eta_m IndustryControl_j + \varepsilon_j \end{aligned} \quad (7.13)$$

Where IND^2 is the square value of the proportion of independent directors on board, $AFFILIATED^2$ is the square value of the proportion of affiliated directors on board, and $BOARDSIZE^2$ is the square value of number of members on board. The sample used in this model is the full sample that consists of 291 companies from 1999 to 2002.

The coefficients of interest in Model 6.13 are β_1 , β_2 , and β_3 . β_1 is predicted to be significantly positive while β_2 and β_3 significantly negative. White-corrected t-statistics are reported in order to control for heteroskedasticity. One-tailed tests are used where there are specific predictions regarding the sign of the estimated coefficients (β_1 , β_2 , and β_3), otherwise two-tailed tests are employed. As Byrd and Hickman (1992), Weisbach (1988), and Cotter et al. (1997), the findings show that there is a nonlinear relationship between the proportion of independent directors and firm performance. However, there is no evidence of curvilinear effect of proportion of affiliated directors and board size on performance.

6.5.3.2 Tests of Curvilinear Effect of Other Board Variables

First, there is a test of whether there is any nonlinear relationship between incentive variables for independent directors and performance. This section just repeats the Model 6.2 by adding square value of $INDSTOCK$ and $INDCASH$. There is no clear evidence

that there are any curvilinear effects of proportion of stock ownership and cash compensation of independent directors on current firm performance.

Second, the findings show that there is a nonlinear relationship between the frequency of board meeting and corporate performance. The coefficient on MEETING² (the square value of number of board meeting in one fiscal year) is positive and significantly at traditional statistical level.

Finally, this section tests whether there is any nonlinear relationship between the proportion of directors from different control shareholders and firm performance. I find that there is quite strong evidence that the proportion of directors from SOEs control shareholders has a significantly negative curvilinear effect on current performance. The coefficients of SOEDIRECTOR² are significantly at 0.01. There is no such relationship between the proportion of directors appointed by government agent shareholders and performance.

6.5.4 Results of Control Sample

The sample firms in this study all have appointed independent or affiliated directors. In order to test robustness of the findings of the Section 6.3.1, a control sample is introduced. The screening conditions are as followings:

- (a) firms that did not appoint independent or affiliated directors before the end of 2002;
- (b) firms that did not issue B or H shares;
- (c) firms that belong to the same industry as companies of the main sample in this chapter; and
- (d) firms that have similar total assets as those of companies of the main sample

in this chapter.

As a result, 455 firms are chosen as the control sample. There are 65 in 1999, 91 in 2000, 143 in 2001, and 156 in 2002. The pooling sample has total 746 firms (291 in the main sample plus 455 in the control sample). Model 6.1 is repeated while only two variables are replaced, IND (the proportion of independent directors on board) with a dummy variable, which is equal to one when a firm appointed independent directors, and zero otherwise, and AFFILIATED (the proportion of affiliated directors on board) with a dummy variable, which is equal to one when a firm appointed affiliated directors, and zero otherwise.

The findings show that whether companies appointed independent directors has a significantly positive impact on corporate performance. In addition, there is no evidence that whether companies appointed affiliated directors has a significant impact on firm performance.

6.5.5 Other Tests

This subsection performs several other sensitivity tests to verify the robustness of previous results, but not presented in tables.

First, IND is replaced with the ratio of the proportion of independent directors to the proportion of non-independent directors (IND/INSIDE). The regression of the Model 6.1 is repeated. The earlier findings are not qualitatively affected.

In order to further test the possible nonlinear relationship between board independence and firm performance, following Bhagat and Black (2000), boards are divided into three independence ranges defined as followings: (1) Dummy 1, equal to one if 0 percent \leq IND < 30 percent, and zero otherwise; (2) Dummy 2, equal to one if 30

percent $\leq \text{IND} < 50$ percent, and zero otherwise; (3) residual category, highly independent boards, with 50 percent $\leq \text{IND} < 100$ percent, and zero otherwise. However, there is no strong evidence of breakpoints of (1) and (3). There is no significantly positive relationship between board independence and firm performance (MBA, MS, ROA, and RSA as dependent directors) when proportion of independent directors is between 30 percent and 50 percent.

Several studies also employ the proportion of stock ownership and cash compensation of CEO as control variables when examining correlation between board independence and firm performance (e.g., Barnhart et al., 1994, Byrd and Hickman, 1992, Weisbach, 1988, and Cotter et al., 1997). Thus MANSTOCK is replaced with CEOSTOCK, and MANCASH with CEOCASH. The previous results still hold.

Following Rosentein and Wyatt (1990), the discrete occupation variables, such as FINANCE, LAW and CPA are replaced with dummy variables. However, the earlier results are unaffected.

Further, the proxy for ownership concentration may be weak if there exists significant difference in share holding of the top shareholders in observation firms. Therefore, the shareholding percentage of the biggest shareholders is replaced with the shareholding percentage of the top 5 shareholders (T5) and the top 3 shareholders (T3). Again, the results are not qualitatively affected.

The last concern about earlier results is the inherent crudeness in measuring investment opportunities in terms of past total assets growth. To check this possibility, the results are reestimated by using growth rates of sales (IO-sales), earnings (IO-Earnings), and fixed assets (IO-FA) in Section 6.2. The earlier results hold using these alternatives

variables measuring investment opportunities.

6.6 Summary

This chapter employs multi-regressions to analyse the correlation between BoD and corporate performance. In particular, it examines the impact of board composition, incentives and characteristics of independent, board structure, board process, and sources of director on financial performance. Table 6.15 summarizes findings of this chapter.

[Table 6.15 goes about here]

There is relatively limited evidence that board independence has significantly positive impacts on corporate performance. In particular, I find that there is non-linear relationship between board independence and firm performance. When the proportion of independent directors on board is between 30 percent and 50 percent, the findings show that there is significantly positive correlation between board independence and current firm performance.

There is no negative relation between the proportion of affiliated directors on board and firm current or future performance. In addition, there is no significantly negative correlation between board size and firm current performance. In particular, there is no non-linear relationship between board size and corporate performance.

There is no confirmative evidence that stock ownership and cash compensation of independent directors have any positive effects on corporate financial performance. However, there is strong evidence that firm performance depends crucially on the interaction between the magnitude of cash compensation of independent directors and the size of them on board. Also there is no evidence that the incentives of independent

directors have any curvilinear effects on current performance.

There is no evidence of significantly positive or negative correlation between age and primary occupation of independent directors and firm performance. However, I find that the presence of overseas independent directors has significantly positive impacts on corporate performance. Interestingly, there is a significantly negative correlation between the proportion of female independent directors and corporate performance.

There is no clear evidence that CEO duality has any negative impact on current financial performance, which rejects the hypothesis H5. Furthermore, there is a significantly negative relationship between multi-directorship and firm performance. In addition, there is limited evidence that auditing committee has significantly positive impact on corporate performance.

There is no significantly positive correlation between the frequency of board meeting and firm financial performance. However, there is strong evidence that firm performance depends crucially on the interaction between the frequency of board meeting and the size of independent directors appointed. In particular, there is confirmative evidence that frequency of board meeting has curvilinear effect on firm performance.

There is no clear evidence that the proportion of directors appointed by government agents control shareholders has negative impact on corporate performance. However, there is significantly negative correlation between the proportion of directors appointed by SOE control shareholders and company performance. Furthermore, the relationship between proportion of directors appointed by SOE control shareholders and company performance is non-linear.

The results of this chapter are also robust for several sensitivity tests.

Table 6.15 Summary of Main Findings

	Hypotheses	Expected Signs	Performance Variables	Test Independent Variables	Results
H1a	Ceteris paribus, the proportion of independent directors on board is positively related to the performance of a China listed company	+	Per-Measure 1 and Per-Measure 2	The proportion of independent directors	Partly fail to reject
H1b	Ceteris paribus, the proportion of affiliated directors on board is not positively related to the performance of a China listed company	-	Per-Measure 1 and Per-Measure 2	The proportion of affiliated directors	Reject
H2	Ceteris paribus, the board size is likely to be negatively related to the performance of a China listed company	-	Per-Measure 1 and Per-Measure 2	The board size	Reject
H3	Ceteris paribus, there is a positive relationship between proportion of stock ownership and cash compensation of independent directors and corporate performance	+	Per-Measure 1 and Per-Measure 2	The proportion of stock ownership and cash compensation of independent directors	Reject
H4	Ceteris paribus, characteristics of independent directors, such as educational background, age and primary occupation, have significant effects on corporate performance	+	Per-Measure 1 and Per-Measure 2	Characteristics of independent directors	Partly fail to reject
H5	Ceteris paribus, CEO duality is likely to be negatively related to the performance of Chinese listed companies	-	Per-Measure 1 and Per-Measure 2	CEO duality	Reject
H6	Ceteris paribus, multiple directorships are negatively related to the performance of Chinese listed companies	-	Per-Measure 1 and Per-Measure 2	Directorships	Fail to reject
H7	Ceteris paribus, frequency of board meetings is positively related to the performance of Chinese listed companies	+	Per-Measure 1 and Per-Measure 2	Frequency of board meetings	Reject
H8	Ceteris paribus, the higher the proportion of directors appointed by government agents shareholders, the worse the company performance	-	Per-Measure 1 and Per-Measure 2	The proportion of directors appointed by government agents shareholders	Reject
H9	Ceteris paribus, the higher the proportion of directors appointed by state-owned corporate shareholders, the better the company performance	+	Per-Measure 1 and Per-Measure 2	The proportion of directors appointed by state-owned corporate shareholders	Reject

Chapter 7 Empirical Results: The Market Reaction to The Appointment of Independent Directors

7.1 Introduction

According to agency theory as discussed in Chapter 2, if board independence can reduce agency costs and as a result improve corporate performance, the stock market should be welcome the appointment of independent directors on board. Therefore, positive market reactions tested in this Chapter can provide additional evidence of effectiveness of boards monitoring and also further develop study of last chapter. According to Brown and Warner (1985) and McWilliams and Siegel (1997), event study is one of most effective and popular methodologies to test market reaction to certain events. Thus, this chapter employs it to test market reactions to the appointment of independent directors in China.

Section 7.2 presents sample and data. Section 7.3 reports a review of the event study methodology. Section 7.4 discusses the models for this chapter. Section 7.5 reports the findings of running these models. Section 7.6 presents the results of cross-sectional regressions. Section 7.7 conducts robustness test. The last section summarises the chapter.

7.2 Sample and Data

7.2.1 Sample Construction

The sample examined in this chapter also consists of firms listed on the Shanghai Securities Exchange (SHSE) and Shenzhen Securities Exchange (SZSE) for the period 1993 to 2002. The sample is determined according to the following criteria besides the

first four mentioned in last chapter:

- (a) All required stock price, market and financial data are available.
- (b) Firms appointed independent directors during 1993 to 2002.
- (c) Firms that appointed independent directors during 1993 to 2002 publicly disclosed details of such appointment information.
- (d) The announcement date of independent directors' appointment could be identified from available data sources.
- (e) During fourteen days before and after the announcement of independent directors' appointment, there are no other important announcement, such as dividends payment plan, earnings announcement, corporate reorganizations and CEO replacement.

The above screening process yields a sample of independent director's appointment of 165 observations over the years 1998 to 2002. In 1998, there are 2 observations, in 1999, there are 7, in 2000, there are 17, in 2001, there are 88, and in 2002, there are 51. Table 7.1 reports the specific screening process.

[Table 7.1 goes about here]

7.2.2 Data Collection

Data sources of the study are as follows:

- (1) Stock price and market data. These data are from Data Stream.
- (2) Independent directors appointment date. These data are manually collected from important announcements of listed companies from Genius Database.
- (3) Other data is same as last chapter.

In order to improve the accuracy of data, the Wind Database is also used as well.

Table 7.1 Screening Process of Sample for Market Reaction to Independent Directors Appointment

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Total
Firms before screening	3	1	3	1	1	4	28	69	194	896	1200
Excluding reasons											0
1.Appoint independent directors before IPO						1	7	5	1	13	27
2.Appoint independent directors during IPO	3	1	3		1		2	8	3	5	26
3.Announce dividends payment plans or resolutions				1		1	8	8	15	145	179
4.Announce plan of capital increasing or SOE							1		1	5	7
5.Change CPAs							1		1	3	5
6.Announce big investment							1		1	4	6
7.Change firm's name								2		1	3
8.Guarantee loans for the third party								1	1	4	6
9.Reorganizations								4	8	35	47
10.Change registry address								1		2	3
11.Cannot find announcement date								2	1	5	8
12.Delegate to BoD to apply loan and guarantee for the third party								1		3	4
13.Related transactions								3	4	15	22
14.Set up found of BoD								2			2
15.Increase registry capital								1	1		2
16.Change directions of capital from IPO or SEO								1	5	23	29
17.Draw provisions for assets impairment									1		1
18.Apply loans from commercial banks									2	9	11
19.Debt restructuring									1		1
20.Change corporate constitution ^c									3	16	19

Table 7.1 Screening Process of Sample for Market Reaction to Independent Directors Appointment (Continued)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Total
21. Change accounting principles or treatments									1	3	4
22. Temporary stop-production									1		1
23. Issue convertible bonds									1	1	2
24. Signing important contracts									1	2	3
25. Disclose reports of problems inspected by the authorities									1		1
26. Adjust use of assets									1	3	4
27. Sell part of assets									1		1
28. Delegate to chairman and CEO									1	1	2
29. Two items or above									1	13	14
Excluding firms	3	1	3	1	1	2	21	52	106	845	1035
Firms after excluding	0	0	0	0	0	2	7	17	88	51	165

Source: Important announcement of listed companies from Genius Database.

7.3 Review of the Event Study Literature

The event study methodology has been widely used in accounting and finance as well as economics to examine security price behaviour around events such as earnings and dividends announcements, CEO appointment and replacement, accounting rule changes, money supply announcements and changes in interest and exchange rates. The event study methodology has, in fact, become the standard method of measuring the effect that the occurrence of an event has on the returns of a firm's common stock price. As noted by Bider (1998), in practice, event studies have been used for two major reasons: 1) to test the null hypothesis that the market efficiently incorporates information (see Fama (1991) for a summary of this evidence), and 2) under the maintained hypothesis of market efficiency, at least with respect to publicly available information, to examine the impact of some events on the wealth of the firm's security holders. The latter reason is the basis of this chapter, which attempts to examine security price behaviour reaction to the appointment of independent directors.

Event studies have enjoyed a long history. Perhaps the first published study is Dolley (1933). In this work, he examines the price effects of stock splits, studying nominal price changes at the time of the split. Using a sample of 95 splits from 1921 through 1931, he finds that the price increased in 57 of the cases and the price declined in only 26 instances. Over the decades from the early 1930s until the late 1960s the level of sophistication of event studies increased. Myers and Bakay (1948), Barker (1956, 1957, and 1958), and Ashley (1962) are examples of studies during this time period. The improvements included removing general stock market price movements and separating out confounding events. Overall, the methods used by these authors are rather simple.

In the late 1960s seminal studies by Ball and Brown (BB, 1968) and Fama et al. (FFJR, 1969) introduced the methodology that is essentially the same as used today. Ball and Brown consider the information content of earnings whereas Fama et al. study the effects of the announcement of a stock split on stock prices. Although event studies have become pervasive since these pioneering studies, there has not been a concomitant refinement in their technique. The event study of 2003 is not that dissimilar to that of 1968, only the names and the data have changed. The application of the methodology in the period 1968 to 2003 would show that there have been only a limited number of significant refinements to the methodology. These include:

- the related work of Ball and Brown; the nonsynchronous technique of Scholes and Williams (1977);
- the speed of adjustment measure of Hillmer and Yu (1979);
- the power and robustness shown by Brown and Warner (1985)
- the fragility shown by Coutts et al. (1994);
- the conditional event study of Acharya (1993) later formalized by Prabhala (1997);
- the long event window (buy-and-hold model) of Cowan and Sergeant (2001),
- and finally the cross-sectional averages of logarithmic returns of Dissanaik and Le Fur (2003).

The event study methodology draws on the efficient market hypothesis, which suggests that capital markets are efficient mechanisms that process all relevant information available about current and future benefits to determine the stock price of the firm (FFJR, 1969). The logic underlying the hypothesis is that investors in capital

markets continuously evaluate all relevant information about firm activities to assess the impact of firm activities on both current performance and future firm performance.

When additional information about firm activities that might affect a firm's future earnings becomes publicly available, the stock price changes to reflect the changed assessment of the present value of the firm. Therefore, the pattern of changes to stock prices associated with news about firm activities becoming public reflects the implication of the news for future benefit streams to the firm. The strength of the method lies in the fact that it captures the overall assessment by a large number of investors of the discounted value of current and future firm benefits attributable to particular events (see McWilliams and Siegel (1997) for a detailed review). The presence of a positive significant risk-adjusted return in excess of the average stock market return, also termed the abnormal return (AR), associated with events or news about firm initiatives provides evidence that the event creates current and future benefits for firms.

However, the event study methodology does have some weaknesses. First, the period around the announcement event for which abnormal returns are analyzed varies greatly from study to study, and the results often appear to be sensitive to the time period chosen. Significant positive abnormal returns to the event during the day or two immediately around the announcement dates are commonly found. However, when abnormal returns are cumulated for ten or twenty days after the announcement, the absence of significant abnormal returns is also common. Second, because the methodology require complete stock price data, many studies analyze observation companies involving only large, publicly traded ones. Many companies concerned are, of course, not publicly traded, so results based on publicly traded stocks are not necessarily

representative of all companies affected. Third, models employed to calculate abnormal returns also varies greatly from study to study. There is no dominant and very powerful model that we can consistently use in the event study. As a result, the results from the event study are mixed.

As reviewed in Chapter 3, there have been a number of event studies that attempted to examine stock price reactions to the appointment of independent directors. Rosenstein and Wyatt (1990) report a significantly positive market reaction to the appointment of independent directors. Fox and Opong (1999) find small but statistically significant positive abnormal returns on the day of announcements of new appointments of independent directors as well as on the day subsequent to the public announcement of the appointment.

Independent directors have been recently introduced into the boards of Chinese listed companies. According to Qian (1995) and Firth et al. (2003), agency issue in China is potentially more serious than in the West. As a result, the appointment of independent directors has given public much expectation in alleviating dominant effects of managers on board. As discussed in Chapter 5, the hypothesis is that *there is positive market reaction to the appointment of independent directors by Chinese listed companies (H10)*.

7.4 Models

7.4.1 The Market –Adjusted Model

Brown and Warner (1980, 1985) document that a simple methodology based on the market model is well-specified and relatively powerful under a wide variety of conditions.

Therefore, the market-adjusted model is employed first to calculate the abnormal return of stock price reaction to the appointment of independent directors. I estimate the market model over 246 trading days relative to the announcement day (from day -260 to -15). For security j , the abnormal return on day t , AR_{jt} , is calculated a

$$AR_{jt} = R_{jt} - (\hat{\alpha} + \hat{\beta} R_{mt}) \quad (7.1)$$

Where R_{jt} = the daily return of security j at day t

R_{mt} = the daily return on Shanghai or Shenzhen stock market at day t respectively

$\hat{\alpha}$, $\hat{\beta}$ = OLS estimated parameters of the market model

The Shanghai Composite Index and the Shenzhen Composite Index are used respectively as a proxy for computing market returns

$$R_{mt} = \log\left(\frac{CI_t}{CI_{t-1}}\right) \quad (7.2)$$

The daily return for security j

$$R_{jt} = \log\left(\frac{P_{jt}}{P_{j,t-1}}\right) \quad (7.3)$$

Where CI is composite index, and P is stock price. The event window is from -14 to 14, and the announcement day is defined as 0 event day.²²

²² There is an implicit assumption in the market model that the beta estimates are stable over time. However, the effect of any instability on the study will be negligible. Armitage (1995) suggest that researchers need not be overly concerned with parameter non-stationarity when using the market model. One significant anomaly relating to the security return generating process is the tendency of small capitalized stocks to outperform larger ones. Event study methodology therefore should consider whether an appropriate adjustment for firm size needs to be made. However, Dimson and Marsh (1986) present evidence that where the measurement interval is short, the impact of size on event study methodology is not significant. In this Chapter, the measurement interval is the 14 – day each sINDe of the announcement and therefore the potential problem of size is considered so slight it can be ignored. Further, I will test the effect of size on AR using cross-sectional regression in the following section. Studies by Fama (1965) and French (1980), among others, present direct evidence of “the Monday and FrINDe Effect”. Since the announcement of appointment of independent directors can be made on any day of the week, it is assumed that the day of the week effect will exert negligible impact on the study and can therefore be ignored (Fox and Opong, 1999).

7.4.2 The Mean-adjusted Model

Although the mean-adjusted model is perhaps the simplest model, Brown and Warner (1980, 1985) find that it often yields results similar to those of more sophisticated models. This lack of sensitivity to the model can be attributed to the fact that the variance of the AR is frequently not reduced much by choosing a more sophisticated model (MacKinlay, 1997). Therefore, the mean-adjusted model is also employed to calculate the AR. For security j , the abnormal return on day t , AR_{jt} , is calculated as

$$AR_{jt} = R_{jt} - \mu_{jt} \quad (7.4)$$

Where μ_{jt} = the mean daily stock return of stock j for the 246 trading days proceeding the first day of the event window (-14, +14).

7.4.3 Measures of Abnormal Returns

This chapter employs two major measures of abnormal return, average abnormal return (AAR) and cumulative abnormal return (CAR).

7.4.3.1 AAR

For each data t in the event window, the cross-section average abnormal returns (AAR) for all firms are defined as

$$AAR_t = \frac{1}{n} \sum_{j=1}^n AR_{jt} \quad (7.5)$$

Where $t = -14$ to $+14$

$$N = 165$$

7.4.3.2 CAR

Cumulative abnormal returns during the event window are given by

$$CAR(t_1, t_2) = \sum_{t=t_1}^{t_2} AR_{jt} \quad (7.6)$$

Where $-14 \leq t_1, t_2 \leq +14$.

This Chapter reports results of CAR (-14, +14), CAR (-10, +10), CAR (-5, +5), CAR (-1, +1), CAR (-14, 0), CAR (-10, 0), CAR (-5, 0), and CAR (-1, 0).

7.5 Empirical Results of Event Study

7.5.1 Sample Characteristics

Panels A and B of Table 7.2 present the distributions of announcements by year and month. Before 2001, there were only 26 clean announcements of independent directors appointment, accounting for 15.75 percent, which indicates the significant influence of the CSRC's Directive that encourages listed companies to appoint independent directors issued at August 2001. Annual meetings usually tend to be held in Spring. As a result, the distribution of announcements is relatively concentrated in April and May, accounting for 12.12 percent and 22.42 percent respectively.

Panel C of Table 7.2 shows the distribution of announcements by the independent directors' primary occupation. The directors' primary occupation is categorized as in Chapter 5.

From Panel C, we can see that the academic field is the biggest source of independent directors considered by the listed companies, accounting for about 40 percent, which indicates that Chinese companies prefer professors as their independent directors. As noted in Chapter 4, compared to their Chinese counterparts, Japanese firms hardly appoint any academic independent directors, and U.S. firms prefer those who are

senior managers from other corporations. Further, Ahmadjian (2001) find that vast majority of candidates of independent directors of Japanese companies are retired government officials, bankers, managers from important trading partners, or parent companies. Perry and Peyer (2003) report that 55 percent of candidates of independent directors are CEO of other corporations, and 39 percent are chairmen in a sample of 349 U.S. firms. Panel C also shows that proportion of independent directors from financial, law and CPA firms are relatively low, 8.89 percent, 5.56 percent and 3.89 percent respectively. In a study of independent directors of British companies, Lin et al. (2003) report that 60 percent of appointees of outside directors are from other non-finance corporations, and 25 percent of them from the finance sector.

Panel D shows the descriptive statistics of inside and outside directors. The average board size in the sample is 9.78 members, of whom 2.18 (22.90 percent) are independent directors. The largest board consists of 19 members, and the maximum number of independent directors size is 5 (44.44 percent), which indicates that there are no outsiders dominated boards in the sample companies. In contrast, the average number of insiders is 8.59, accounting for 78.10 percent of the board.

[Table 7.2 goes about here]

Table 7.2 Characteristics of the Sample

Characteristics of a sample of 165 announcements of the appointment of independent directors to the board of companies listed on Shanghai Stock Exchange or Shenzhen Stock Exchange as reported in the Shanghai Securities News or Securities Daily News over the 1998—2002.

Panel A: Frequency Distribution of Announcements

	1998	1999	2000	2001	2002	Total
Frequency	2	7	17	88	51	165
Percent (%)	1.21	4.24	10.30	53.33	30.91	100.00

Panel B: Frequency Distribution of Announcements by Month

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Frequency	2	5	11	20	37	9	13	13	14	10	17	14	165
Percent (%)	1.21	3.03	6.67	12.12	22.42	5.45	7.88	7.88	8.48	6.06	10.30	8.48	100.00

Panel C: Frequency Distribution of Number of Appointed Independent Directors by Their Primary Occupation

	Financial	Law	CPA	Corporation	Academic	Government	Neutral	Total
Frequency	32	20	14	68	141	28	57	360
Percent (%)	8.89	5.56	3.89	18.89	39.17	7.78	15.83	100.00

Panel D: Descriptive Statistics of Directors Size

	Board Size	Independent Directors Size	Inside Directors Size	Proportion of Independent Directors	Proportion of Inside Directors
Mean	9.78	2.18	7.59	22.90%	77.10%
Median	9	2	7	22.22%	77.78%
Standard Deviation	2.21	0.76	2.16	7.81%	7.81%
Minimum	6	1	4	7.69%	55.56%
Maximum	19	5	17	44.44%	92.31%

7.5.2 Market Reaction to The Independent Directors Appointment

Table 7.3 presents the average abnormal return (AAR) over days -14 to $+14$ of the stock market reaction to the appointment of independent directors using the two models. Similar to the results of Mak et al. (2003), the findings presented in the second and fourth column of Table 7.3 show that the AAR for the full sample is positive although not significant during the three days window $[0, +2]$, which indicates that the results do not support the view that announcements of independent director appointments are associated with significant average share price increases. Figure 7.1 also presents the comparison of AAR under the two models.

[Table 7.3 goes about here]

[Figure 7.1 goes about here]

Contrary to the findings of Rosenstein and Wyatt (1990) and Fox and Opong (1999), another measure of abnormal return—CAR ($-1, +1$) is also not significantly positive as shown in Table 7.4. The average CAR over days -1 to $+1$ is positive but insignificant (CAR ($-1, +1$) = 0.13 percent, t -statistics = 1.115 under the market model, and CAR ($-1, +1$) = 0.17 percent, t -statistics = 1.146 under the mean model). Further, CAR ($-14, +14$), CAR ($-10, +10$), CAR ($-5, +5$), CAR ($-14, 0$), CAR ($-10, 0$), CAR ($-5, 0$), and CAR ($-1, 0$) are all not significantly positive at the conventional levels of significance.

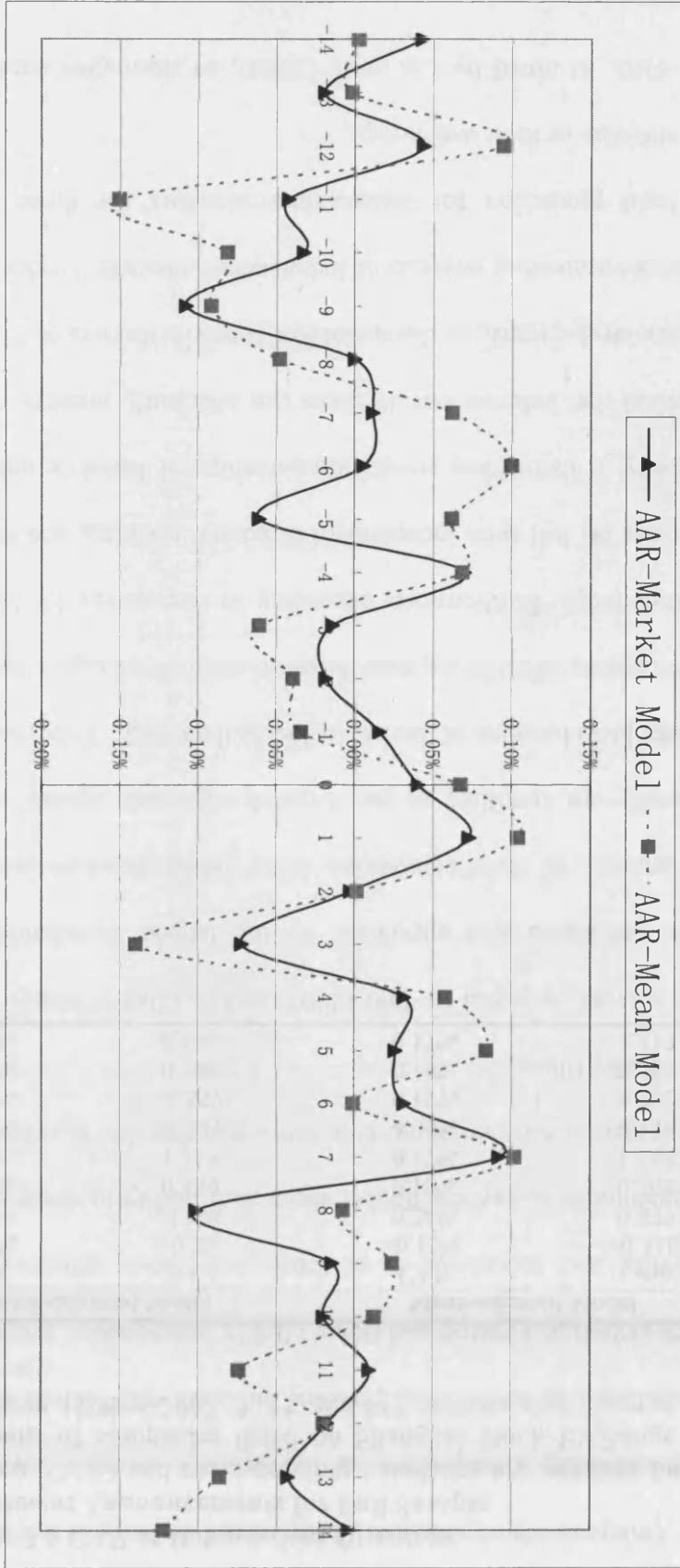
[Table 7.4 goes about here]

**Table 7.3 AAR of Independent Directors Appointment
Announcements for Full Sample**

Average Abnormal Return (AAR) and corresponding t-statistics are reported for the sample of 165 announcements of companies listed on Shanghai Stock Exchange and Shenzhen Stock Exchange from 1998 to 2002. *, **, and *** indicate significant at 1%, 5%, and 10% level, respectively.

Day (t)	Market-adjusted Model		Mean-adjusted Model	
	AAR _t	t-stat	AAR _t	t-stat
-14	0.04%	0.788	0.00%	0.02
-13	-0.02%	-0.367	0.00%	-0.033
-12	0.04%	0.702	0.09%	1.371
-11	-0.04%	-0.857	-0.15%	-2.077**
-10	-0.03%	-0.564	-0.08%	-1.080
-9	-0.11%	-1.773*	-0.09%	-1.068
-8	0.00%	-0.001	-0.05%	-0.583
-7	0.01%	0.235	0.06%	0.817
-6	0.01%	0.110	0.10%	1.192
-5	-0.06%	-1.155	0.06%	0.746
-4	0.07%	1.188	0.07%	0.876
-3	-0.01%	-0.252	-0.06%	-0.816
-2	-0.02%	-0.326	-0.04%	-0.583
-1	0.02%	0.285	-0.03%	-0.435
0	0.04%	0.528	0.07%	0.772
1	0.07%	1.064	0.10%	1.134
2	0.00%	0.058	0.00%	0.012
3	-0.07%	-1.455	-0.14%	-2.134**
4	0.03%	0.566	0.06%	0.755
5	0.03%	0.452	0.08%	1.103
6	0.03%	0.565	0.00%	-0.018
7	0.09%	1.746*	0.10%	1.413
8	-0.10%	-1.877*	-0.01%	-0.097
9	-0.01%	-0.232	0.02%	0.300
10	-0.02%	-0.397	0.01%	0.173
11	0.01%	0.192	-0.07%	-1.148
12	-0.02%	-0.357	-0.02%	-0.276
13	-0.04%	-0.907	-0.09%	-1.437
14	0.00%	-0.063	-0.12%	-1.672*

Figure 7.1 Comparison of Average Abnormal Return (AAR) of Market Model and Mean Model for Full Sample



**Table 7.4 CAR of Independent Directors
Appointment Announcements for Full Sample**

Cumulative Abnormal Return (CAR) and corresponding t-statistics are reported for the sample of 165 announcements of companies listed on Shanghai Stock Exchange and Shenzhen Stock Exchange from 1998 to 2002. *, **, and *** indicate significant at 1%, 5%, and 10% level, respectively.

Day (t ₁ , t ₂)	Market-adjusted Model		Mean-adjusted Model	
	CAR	t-stat	CAR	t-stat
(-14,+14)	-0.08%	-0.27	-0.13%	-0.316
(-10,+10)	-0.05%	-0.196	0.24%	0.677
(-5,+5)	0.09%	0.459	0.10%	0.369
(-1,+1)	0.13%	1.115	0.17%	1.146
(-14,0)	-0.07%	-0.321	0.05%	0.148
(-10,0)	-0.09%	-0.557	0.19%	0.732
(-5,0)	0.03%	0.240	0.10%	0.559
(-1,0)	0.06%	0.606	0.17%	1.317

One possible explanation for the above findings is that the market is skeptical about the monitoring effectiveness of independent directors and does not believe that the appointment of several independent directors will benefit them directly. As argued by Mace (1986) and Patton and Baker (1987), independent directors lack the necessary time, expertise and incentives to perform their duties effectively and this has led many commentators to express doubts about their ability to make a meaningful contribution to shareholder wealth creation. One can argue that this is even more likely in an emerging market like China.

Second, as noted by Wei (2003) and Li (2003), nearly all of independent directors were nominated and appointed by the largest shareholders or their representatives—manager—of their companies. Independent directors are their ‘old boys’ and they generally are unwilling to put forward arguments against managers or the controlling shareholders because of fearing of losing their faith. Third, most of independent directors are incapable of fulfilling their duties to monitor managers due to their limited experience or knowledge. Furthermore, according to one survey by Shanghai Exchange in 2003, there are no full time independent directors in China, and most of them are celebrities. Majority of them have several directorships of listed or unlisted companies. Thus it is sceptical that independent directors can efficiently monitor managers and add value for shareholders. Fourth, as discussed in Chapter 4, there is still no formal legal regulation or act about protecting interests of independent directors. Under such circumstances, there is no legal protection for independent directors for those who challenge controlling shareholders or their watchdogs.

Fifth, as noted by Lin et al. (2003), an alternative explanation for the lack of any

significant market reaction to the announcement of independent directors appointment is that market participants systematically anticipated these appointments prior to their official announcement on the public media. It is possible that the market is so smart to effectively anticipate the effect of the announcements and digest the information before its release.

Finally, there is evidence that the stock market in China is not even semi-efficient (e.g., Wei, 1998; Xue, 2001; Li, 2002). As noted above, the methodology is drawing on the efficient market hypothesis, which suggests that capital markets are efficient mechanisms that process all relevant information available about current and future benefits to determine the stock price of firms. Therefore, China stock market is not efficient enough to employ the event study methodology to capture impacts of the appointment of independent directors on stock price.

Table 7.5 presents AAR for the SHSE and SZSE sub-samples. They are qualitatively the same as the results with the full sample. The AAR obtained on the event date is positive but insignificant for both sub-samples. However, it is interesting to note that several CARs for the SZSE sub-sample are significantly positive (please see Table 7.6), e.g., $CAR(-1, +1) = 0.26$ percent, t -statistics = 1.687 under the market model, and $CAR(-1, +1) = 0.32$ percent, t -statistics = 1.616 under the mean model respectively, and all significant at 0.10 level. Similar evidence is not found for the SHSE sub-sample. One possible explanation is that companies in the two stock exchanges are systematically different, which may result in different expectation and reactions of investors to the appointment of independent directors. As noted by Sun et al. (2002), while in principle any enterprise going public can list on either the SHSE or SZSE, in fact this is strongly

influenced by local authorities. The SHSE, located in the leading commercial and industrial hub of Yangtze Delta in Eastern China, tends to attract mostly local large industrial companies. In contrast, the listed companies on the Shenzhen Stock Exchanges tend to be smaller than those in Shanghai and are generally export oriented.

[Table 7.5 goes about here]

[Table 7.6 goes about here]

Table 7.5 AAR for Announcements of Independent Directors Appointment of Shanghai Stock Market and Shenzhen Stock Market Sub-samples
Average Abnormal Return (AAR) and corresponding t-statistics are reported for the sub-sample of 60 and 105 announcements of companies listed on Shanghai Stock Exchange and Shenzhen Stock Exchange from 1998 to 2002 respectively. *, **, and *** indicate significant at 1%, 5%, and 10% level, respectively.

Day (t)	Shanghai Stock Exchange				Shenzhen Stock Exchange			
	Market-adjusted Model		Mean-adjusted Model		Market-adjusted Model		Mean-adjusted Model	
	AAR _t	t-stat	AAR _t	t-stat	AAR _t	t-stat	AAR _t	t-stat
-14	-0.09%	-1.087	-0.15%	-1.132	0.12%	1.687*	0.09%	0.810
-13	-0.07%	-1.047	0.07%	0.606	0.01%	0.145	-0.04%	-0.439
-12	0.01%	0.116	0.12%	1.079	0.06%	0.780	0.08%	0.902
-11	-0.04%	-0.479	-0.19%	-1.777*	-0.04%	-0.713	-0.13%	-1.335
-10	0.06%	0.775	-0.02%	-0.207	-0.08%	-1.047	-0.12%	-1.094
-9	0.00%	-0.042	-0.01%	-0.106	-0.17%	-2.104**	-0.14%	-1.165
-8	-0.06%	-0.874	-0.21%	-1.967	0.03%	0.447	0.05%	0.411
-7	-0.02%	-0.406	-0.06%	-0.54	0.03%	0.439	0.13%	1.258
-6	-0.04%	-0.538	0.00%	0.021	0.03%	0.419	0.15%	1.359
-5	0.02%	0.262	0.16%	1.212	-0.11%	-1.665*	0.00%	0.047
-4	0.17%	1.843*	0.17%	1.496	0.01%	0.163	0.01%	0.077
-3	-0.13%	-1.378	-0.30%	-2.597***	0.05%	0.745	0.08%	0.807
-2	-0.07%	-0.941	-0.14%	-1.343	0.01%	0.132	0.02%	0.229
-1	-0.11%	-1.698*	-0.23%	-2.330**	0.09%	1.159	0.08%	0.72
0	-0.10%	-0.823	-0.04%	-0.286	0.12%	1.216	0.13%	1.198
1	0.11%	1.334	0.17%	1.331	0.05%	0.529	0.06%	0.512
2	-0.12%	-1.770*	-0.22%	-2.550***	0.06%	0.903	0.12%	1.148
3	-0.07%	-1.194	-0.09%	-1.227	-0.07%	-1.026	-0.17%	-1.781*
4	0.04%	0.555	0.01%	0.069	0.03%	0.362	0.09%	0.815
5	-0.02%	-0.258	-0.01%	-0.125	0.05%	0.645	0.14%	1.338
6	0.02%	0.277	0.04%	0.276	0.04%	0.492	-0.02%	-0.228
7	0.17%	1.949*	0.09%	0.786	0.05%	0.700	0.11%	1.173
8	-0.09%	-1.099	-0.13%	-0.888	-0.11%	-1.521	0.06%	0.639
9	0.07%	0.686	0.03%	0.241	-0.06%	-0.752	0.02%	0.195
10	-0.05%	-0.589	-0.07%	-0.582	0.00%	-0.024	0.06%	0.692
11	0.02%	0.261	-0.15%	-1.523	0.00%	0.041	-0.03%	-0.356
12	0.08%	1.018	0.08%	0.721	-0.07%	-1.088	-0.08%	-0.784
13	-0.03%	-0.418	-0.19%	-1.665*	-0.05%	-0.815	-0.03%	-0.380
14	0.08%	1.127	-0.17%	-2.052**	-0.05%	-0.589	-0.10%	-0.915

Table 7.6 CAR for Announcements of Independent Directors Appointment of Shanghai Stock Market and Shenzhen Stock Market Sub-samples

Cumulative Abnormal Return (AAR) and corresponding t-statistics are reported for the sub-sample of 60 and 105 announcements of companies listed on Shanghai Stock Exchange and Shenzhen Stock Exchange from 1998 to 2002 respectively. *, **, and *** indicate significant at 1%, 5%, and 10% level, respectively.

	Shanghai Stock Exchange				Shenzhen Stock Exchange			
	Market-adjusted Model		Mean-adjusted Model		Market-adjusted Model		Mean-adjusted Model	
Day (t ₁ , t ₂)	CAR _t	t-stat	CAR _t	t-stat	CAR _t	t-stat	CAR _t	t-stat
(-14,+14)	-0.27%	-0.568	-1.29%	-2.104**	0.02%	0.058	0.53%	0.989
(-10,+10)	-0.22%	-0.639	-1.00%	-1.957	0.05%	0.141	0.95%	2.041**
(-5,+5)	-0.28%	-1.210	-0.65%	-1.792*	0.30%	1.129	0.53%	1.384
(-1,+1)	-0.10%	-0.630	-0.08%	-0.370	0.26%	1.687*	0.32%	1.616*
(-14,0)	-0.48%	-1.738*	-0.50%	-1.123	0.17%	0.575	0.36%	0.889
(-10,0)	-0.28%	-1.249	-0.49%	-1.269	0.02%	0.082	0.57%	1.750*
(-5,0)	-0.22%	-1.095	-0.37%	-1.459	0.18%	0.989	0.38%	1.499
(-1,0)	-0.21%	-1.577	0.13%	0.608	0.21%	1.724*	0.19%	1.188

7.6 Empirical Results of Cross-sectional Regressions

7.6.1 Variables

To gain additional insights into the impacts of the appointment of independent directors on the stock market, following Rosenstein and Wyatt (1990) and Lin et al. (2003), this section regresses average cumulative abnormal returns (CAR) over days -1 to $+1$ against the fraction of board seats held by independent directors, board size, directors and senior managers stock ownership, independent directors' primary occupation and a set of control variables. The detailed definitions of variables are presented in last chapter.

7.6.2 Sample Characteristics

Table 7.7 summarises the data used in the regressions. Results are reported for both before and after rank transformation. Before transformation, the average cumulative abnormal return is 0.001 percent and 0.002 percent under the market model and mean model respectively. The maximum of equity ownership owned by the directors and senior managers is 2 percent with a mean value of near zero.

[Table 7.7 goes about here]

Table 7.7 Descriptive Statistics of Variables for Cross-sectional Regression

This table presents descriptive statistics for the full sample that consists of listed firms in Shanghai Stock Exchange and Shenzhen Stock Exchange for the years 1998-2002. The announcements are 165. (1) MARKETCAR, average Cumulative Abnormal Return over three days -1 to +1 from the market model; (2) RMARKETCAR, variable MARKETCAR after rank transformed; (3) MEANCAR, average Cumulative Abnormal Return over three days -1 to +1 from the mean model; (4) RMEANCAR, variable MEANCAR after rank transformed; (5) FINANCE, proportion of those from financial institutions among independent directors; (6) variable FINANCE after rank transformed; (7) LAW, proportion of those from law institutions among independent directors; (8) RLAW, variable LAW after rank transformed; (9) CPA, proportion of those from CPA institutions among independent directors; (10) RCPA, variable CPA after rank transformed; (11) CORPORATE, proportion of those from other corporations among independent directors; (12) ACADEMIC, proportion of those from academic institutions among independent directors; (13) GOVERNMENT, proportion of those from government affiliated bodies among independent directors; (14) RGOVERNMENT, variable GOVERNMENT after rank transformed; (15) NEUTRAL, proportion of those with any primary affiliation other than the above among independent directors; (16) RNEUTRAL, variable RNEUTRAL after rank transformed; (17) BOARD, the total number of directors after the appointment of independent directors; (18) RBOARD, variable BOARD after rank transformed; (19) IND, proportion of independent directors on board; (20) MANSTOCK, percentage of equity shares owned by directors and senior managers at the financial year-end prior to the appointment announcement; (21) RMANSTOCK, variable MANSTOCK after rank transformed; (22) MANSTOCK*IND, interactive variables of MANSTOCK and IND; (23) FINANCE*MANSTOCK, interactive variables of FINANCE and MANSTOCK; (24) LAW*MANSTOCK, interactive variables of LAW and MANSTOCK; (25) CPA*MANSTOCK, interactive variables of CPA and MANSTOCK; (26) CORPORATE*MANSTOCK, interactive variables of CORPORATE and MANSTOCK; (27) ACADEMIC*MANSTOCK, interactive variables of ACADEMIC and MANSTOCK; (28) GOVERNMENT*MANSTOCK, interactive variables of GOVERNMENT and MANSTOCK; (29) NEUTRAL*MANSTOCK, interactive variables of NEUTRAL and MANSTOCK; (30) SIZE, logarithm of book value of total assets at the financial year-end prior to the appointment announcement.

	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
MARKETCAR	-0.040	0.070	0.001	0.015	1.420	5.742
RMARKETCAR	0.011	1.000	0.503	0.283	0.001	-1.187
MEANCAR	-0.060	0.090	0.002	0.019	0.784	3.053
RMEANCAR	0.011	1.000	0.503	0.283	0.001	-1.187
FINANCE	0.000	1.000	0.085	0.201	2.413	5.514
RFINANCE	0.313	0.994	0.503	0.181	1.810	1.594
LAW	0.000	1.000	0.058	0.176	3.278	11.169
RLAW	0.375	1.000	0.503	0.156	2.435	4.188
CPA	0.000	0.500	0.035	0.118	3.360	9.941
RCPA	0.438	0.983	0.503	0.137	3.013	7.248
CORPORATE	0.000	1.000	0.184	0.306	1.508	1.181
ACADEMIC	0.000	1.000	0.404	0.399	0.333	-1.402
GOVERNMENT	0.000	1.000	0.084	0.223	2.820	7.484
RGOVERNMENT	0.333	0.994	0.503	0.171	2.064	2.491
NEUTRAL	0.000	1.000	0.150	0.297	1.895	2.422
RNEUTRAL	0.364	0.981	0.503	0.212	1.266	-0.208
BOARD	6.000	19.000	9.776	2.210	1.246	2.889
RBOARD	0.017	1.000	0.503	0.273	0.071	-1.086
IND	0.080	0.440	0.229	0.078	0.270	-0.284
MANSTOCK	0.000	0.020	0.000	0.001	9.596	104.207
R MANSTOCK	0.080	1.000	0.503	0.282	0.047	-1.256
MANSTOCK *IND	0.010	0.440	0.119	0.087	1.077	1.074
FINANCE* MANSTOCK	0.030	0.780	0.250	0.164	0.832	0.621

Table 7.7 Descriptive Statistics of Variables for Cross-sectional Regression (Cont.)

LAW* MANSTOCK	0.040	0.850	0.247	0.151	0.835	1.541
CPA* MANSTOCK	0.040	0.940	0.251	0.164	1.329	3.364
CORPORATE* MANSTOCK	0.000	0.270	0.023	0.046	2.759	8.802
ACADEMIC* MANSTOCK	0.000	0.440	0.047	0.065	2.288	8.081
GOVERNMENT* MANSTOCK	0.040	0.800	0.257	0.181	1.112	1.031
NEUTURAL* MANSTOCK	0.030	0.950	0.245	0.173	1.355	2.223
SIZE	4.170	6.830	5.076	0.393	0.629	1.889

Table 7.8 provides the correlation coefficients. MARKETCAR has significantly positive relationships with MANSTOCK, and CORPORATE*MANSTOCK respectively, while MEANCAR has significantly positive relationships with LAW* MANSTOCK, CORPORATE* MANSTOCK and GOVERNMENT* MANSTOCK. The correlation analysis suggests that multicollinearity is not a significant problem in our subsequent regression analyses.

[Table 7.8 goes about here]

Table 7.8 Correlations Statistics of Variables for Cross-sectional Regression

This table reports the Spearman correlation statistics for the full sample that consists of listed firms in Shanghai Stock Exchange and Shenzhen Stock Exchange for the years 1998-2002. The announcements are 165. (1) MARKETCAR, average Cumulative Abnormal Return over three days -1 to +1 from the market model; (2) MEANCAR, average Cumulative Abnormal Return over three days -1 to +1 from the mean model; (3) FINANCE, proportion of those from financial institutions among independent directors; (4) LAW, proportion of those from law institutions among independent directors; (5) CPA, proportion of those from CPA institutions among independent directors; (6) GOVERNMENT, proportion of those from government affiliated bodies among independent directors; (7) NEUTRAL, proportion of those with any primary affiliation other than the above among independent directors; (8) BOARDSIZE, the total number of directors after the appointment of independent directors; (9) MANSTOCK, Percentage of equity shares owned by directors and senior managers at the financial year-end prior to the appointment announcement; (10) CORPORATE, proportion of independent directors from other corporations; (11) ACADEMIC, proportion of independent directors from academic institutions; (12) IND, Proportion of independent directors on board; (13) SIZE, logarithm of book value of total assets at the financial year-end prior to the appointment announcement; (14) MANSTOCK*IND Interactive variables of MANSTOCK and IND; (15) FINANCE*MANSTOCK, Interactive variables of FINANCE and MANSTOCK; (16) LAW*MANSTOCK, interactive variables of LAW and MANSTOCK; (17) CPA*MANSTOCK, interactive variables of CPA and MANSTOCK; (18) CORPORATE*MANSTOCK, interactive variables of CORPORATE and MANSTOCK; (19) ACADEMIC*MANSTOCK, interactive variables of ACADEMIC and MANSTOCK; (20) GOVERNMENT*MANSTOCK, interactive variables of GOVERNMENT and MANSTOCK; (21) NEUTRAL*MANSTOCK, interactive variables of NEUTRAL and MANSTOCK. ***, **, and * indicate significant at 1 percent, 5 percent, and 10 percent level, respectively (two-tailed). As in Table 7.8, MARKETCAR, MEANCAR, and other variables are rank-transferred.

	MARKET CAR	MEAN CAR	FINANCE	LAW	CPA	GOVERNMENT	NEUTRAL	BOARD SIZE	MANSTOCK	CORPORATE	ACADEMIC	IND	SIZE	MANSTOCK*IND	FINANCE*MANSTOCK	LAW*MANSTOCK	CPA*MANSTOCK	CORPORATE*MANSTOCK	ACADEMIC*MANSTOCK	GOVERNMENT*MANSTOCK	NEUTRAL*MANSTOCK
MARKETCAR	1																				
MEANCAR	0.489***	1																			
FINANCE	-0.005	0.112	1																		
LAW	-0.005	0.089	-0.026	1																	
CPA	-0.041	0.005	-0.013	0.163**	1																
GOVERNMENT	0.02	0.005	0.016	-0.035	-0.017	1															
NEUTRAL	-0.046	-0.135*	-0.207	-0.07	0.054	-0.102	1														
BOARD	-0.087	-0.058	-0.064	0.076	-0.041	-0.001	0.072	1													
MANSTOCK	0.134*	0.038	-0.051	-0.134*	-0.043	0.077	-0.133*	0.075	1												
CORPORATE	0.037	0.028	-0.064	-0.108	-0.063	-0.154**	-0.236***	0.034	-0.163*	1											
ACADEMIC	-0.039	-0.002	-0.205***	-0.235***	-0.227***	-0.299***	-0.306***	0.051	0.019	-0.387***	1										
IND	-0.036	-0.038	0.167**	-0.011	0.209***	0.078	-0.311***	-0.163*	0.078	-0.109	-0.128*	1									
SIZE	-0.096	-0.04	-0.106	0.083	0.059	0.067	0.158**	0.213***	0.036	-0.067	-0.128*	-0.026	1								
MANSTOCK*IND	0.124	-0.011	-0.11	-0.121	-0.073	0.034	-0.113	0.111	0.412***	0.007	0.16*	-0.139*	0.038	1							
FINANCE	0.055	0.155	-0.067	0.006	-0.031	0.128*	0.07	-0.044	-0.017	-0.019	-0.015	0.051	0.052	-0.012	1						
LAW*MANSTOCK	0.079	0.189*	0.045	0.007	-0.07	0.04	0.018	-0.097	-0.055	0.024	0.03	0.127*	-0.075	-0.054	0.371***	1					
CPA*MANSTOCK	0.071	0.066	-0.068	0.039	-0.057	0.027	0.076	0.019	-0.039	0.039	0.046	0.102	-0.072	-0.002	0.317	0.772	1				
CORPORATE*	0.165**	0.140*	-0.06	-0.038	-0.004	-0.124	-0.155**	-0.116	0.073	0.375***	-0.326***	0.271***	-0.066	0.002	0.174*	0.257***	0.232***	1			
MANSTOCK																					
ACADEMIC*	-0.001	0.029	-0.129*	-0.175**	-0.160**	-0.189**	-0.099	-0.13*	-0.125	-0.274***	0.352***	0.289***	-0.133	-0.012	0.292***	0.369***	0.409***	-0.161	1		
GOVERNMENT*	0.016	0.191***	-0.097	-0.035	-0.040	0.155	0.058	-0.042	-0.034	-0.034	0.061	0.103	0.036	-0.019	0.298***	0.393***	0.280***	0.174**	0.309***	1	
NEUTRAL*																					
MANSTOCK	0.018	0.113	-0.020	-0.015	-0.06	0.139	0.078	-0.039	-0.074	-0.078	0.048	0.112	-0.036	-0.038	0.335***	0.322***	0.255***	0.104	0.312***	0.274***	1

From the Table 7.8, we can find that several variables are highly skewed. As in Chapter 6, I take rank transformations of the independent and dependent variables and replace them with the rank equivalents in our analysis, which include MARKETCAR, MEANCAR, FINANCE, LAW, CPA, GOVERNMENT, BOARDSIZE, and MANSTOCK.

7.6.3 Explaining Returns by Agency Problems

According to Lin et al. (2003), while independent directors are appointed to help control agency problems between managers and shareholders, the monitoring benefits of independent board members are expected to depend on the severity of the agency problem. Consistent with this argument, Denis and Sarin (1999), Zajac and Westphal (1994) and Weisbach (1988) show that the demand for independent directors increases as the level of managerial equity ownership declines. Similarly, Mayers et al. (1997) report a higher demand for independent directors among mutual insurers relative to their listed counterparts, due to heightened agency problems resulting from the absence of a takeover threat. Finally, Peasnell et al. (2001), Coles and Hesterly (2000) and Weisbach (1988) present direct evidence of a positive association between the monitoring benefits of independent directors and the severity of the agency problem.

According to Jensen and Meckling (1976), and Jensen (1986), the lower the equity ownership by management, the higher agency costs of the company. Therefore, it is expected that there is a more positive market reaction to the appointment of independent directors when the equity ownership by management of a given company is lower.

Following Lin et al. (2003), agency problems are proxied by the proportion of

outstanding shares owned by incumbent board members and other senior managers (MANSTOCK) disclosed in the annual report, measured at the financial year-end prior to the appointment announcement. All else equal, agency problems are expected to increase as the level of MANSTOCK declines.

The primary prediction is that the market reaction to independent director appointments will be higher for firms with serious agency problems that appoint independent directors. This prediction is tested by using the following OLS regression model:

$$CAR_{jt} = \alpha + \beta_1 IND + \beta_2 MANSTOCK + \phi_1 MANSTOCK * IND + \lambda_1 BOARDSIZE + \lambda_2 SIZE + \varepsilon_{jt} \quad (7.7)$$

where CAR measures cumulative abnormal returns of the announcement of independent director's appointment. One coefficient of interest in model 7.7 is β_1 , which captures the impact of monitoring roles of independent directors. If, as predicted by H10, the market reacts positively to appointment of independent directors, then β_1 will be significantly positive. Another coefficient of interest in model 7.7 is β_2 , which captures the effect of senior managers' ownership on announcement-period returns. If the above prediction (the market react positively to independent directors appointed by firms with serious agency problems) is correct, then β_2 will be negative and significant. Moreover, because market participants are expected to value the appointment of independent directors more when agency problems are high, I also predict that $\phi_1 > 0$.

Board size is controlled because Yermack (1996) and Eisenberg et al. (1998) find that there is a significantly negative relationship between firm's value and board size. Following Rosenstein and Wyatt (1990) and Lin et al. (2003), a measure of firm size is

controlled because they find that announcement-period CARs are related to firm size.

Table 7.9 presents the findings of Model 7.8. White-corrected t-statistics are reported in order to control for heteroskedasticity (White, 1980). One-tailed tests are used where there are specific predictions regarding the sign of the estimated coefficients (β_1 , β_2 , and ϕ_1), otherwise two-tailed tests are employed.

Contrary to the prediction, the coefficient on IND is negative in under both the market model and the mean model. This indicates that the proportion of independent directors over board size does not cause a significant favourable reaction from the stock market. As predicted, however, the coefficient on MANSTOCK is negative in both regressions under the two models indicating a more favourable market reaction for firms facing high agency problems when they appoint independent directors, although t-statistics are not significant. Furthermore, the coefficient on MANSTOCK*IND is positive and significant at the 0.05 (t-statistics= 1.866) and 0.01 (t-statistics= 2.292) level when CAR from the market model and the mean model respectively (one-tailed tests). Overall, these findings support the prediction that the market response to independent directors appointments depends crucially on the interaction between the magnitude of the agency problem and the size of independent directors appointed.

[Table 7.9 goes about here]

Table 7.9 OLS Regression for Full Sample – Model 7.7

This table reports the regression result of the full sample. The sample consists of 165 firms listed in the Shanghai Stock Exchange (SHSE) and the Shenzhen Stock Exchange (SZSE) for the period 1998-2002. The dependent variables are CARs from the market model and CAR from the mean model respectively. The independent variables are: (1) IND, proportion of independent directors on board; (2) MANSTOCK, percentage of equity shares owned by directors and senior managers at the financial year-end prior to the appointment announcement; (3) MANSTOCK*IND, interactive variables of MANSTOCK and IND; (4) BOARD, the total number of directors after the appointment of independent directors; (5) SIZE, logarithm of book value of total assets at the financial year-end prior to the appointment announcement. For independent variables, IND, MANSTOCK, and MANSTOCK*IND, one-tail t-test is employed, and for other independent variables, two-tailed t-test is employed. ***, **, and * indicate significant at 1 percent, 5 percent, and 10 percent level, respectively.

$$CAR_{jt} = \alpha + \beta_1 IND + \beta_2 MANSTOCK + \phi_1 MANSTOCK * IND + \lambda_1 BOARDSIZE + \lambda_2 SIZE + \varepsilon_{jt}$$

	CAR-Market Model		CAR-Mean Model	
	Coefficient	t-stat	Coefficient	t-stat
Intercept	0.825	2.795***	0.704	2.347**
IND	-0.053	-0.649	-0.06	-0.723
MANSTOCK	-0.100	-1.262	-0.072	-0.889
MANSTOCK*IND	0.149	1.866**	0.240	2.292***
BOARD	-0.113	-1.339	-0.061	-0.714
SIZE	-0.073	-0.919	-0.032	-0.391
Adj-R ²	0.024		0.031	
F-	2.470		3.404	

7.6.4 Explaining Returns by Independent Director's Primary Occupation

As noted in Chapter 3, characteristics of independent director do affect their monitoring effectiveness. Rosenstein and Wyatt (1990) argue that wide disparities in the composition of individual boards coupled with the absence of a theoretical model of the optimal board make it difficult to generalize about the relative benefits of types of independent directors. However, there has been no speculation about the merits of independent directors by occupation. Baysinger and Butler (1985) claim that independent directors whose organizations have no conceivable economic affiliation with the firm have a more positive effect on performance than those whose organizations are economically interdependent, suggesting that appointments of neutral independent directors may be more beneficial than appointment of other corporate independent directors.

Rosenstein and Wyatt (1990) claim that the fresh perspective provided by neutral independent directors might make them particularly valuable as board members, while contributions provided by managers of other corporations may be marginal for boards already composed primarily of professional managers. With respect to financial independent directors, Easterbrook (1984) contends that contributors of capital are very good monitors of management. Based on these arguments, the following OLS regression model is used to examine whether abnormal returns are related to an independent director's primary occupation:

$$\begin{aligned} CAR_{jt} = & \alpha + \beta_1 IND + \beta_2 MANSTOCK + \phi_1 MANSTOCK * IND + \eta_1 FINANCE + \\ & \eta_2 LAW + \eta_3 CPA + \eta_4 CORPORATE + \eta_5 ACADEMIC + \\ & \eta_6 GOVERNMENT + \eta_7 NEUTRAL + \lambda_1 BOARD + \lambda_2 SIZE + \varepsilon_{jt} \end{aligned} \quad (7.8)$$

If the market reacts positively to the appointment of finance, corporate and neutral independent directors, then η_1 , η_4 , and η_7 will be significantly positive. But for appointment of the other kinds of independent directors, such as LAW, CPA, ACADEMIC and GOVERNMENT, no specific predictions are made concerning either the sign or absolute magnitude of the market's reaction to their appointments because the benefits associated with such appointments are less clear-cut. In particular, according to the Directive issued by CSRC in 2001, listed companies are suggested to appoint at least one professional accountant as independent directors. Therefore, it is possible that the market already has had the expectation that listed companies should and would appoint professional accountant as independent directors, which indicates that the market reaction to appointment of professional accountants as independent directors may be insignificant.

Table 7.10 presents the findings of Model 7.8. One-tailed tests are used where there are specific predictions regarding the sign of the estimated coefficients (β_1, β_2, ϕ_1 , and η_1, η_4 , and η_7), otherwise two-tailed tests are employed. As in Model 7.7, the coefficient on interactive variable MANSTOCK*IND is significantly positive, which further corroborates the prediction that the market response to independent directors appointments depends crucially on the interaction between the magnitude of the agency problem and the size of independent directors appointed. However, as Rosenstein and Wyatt (1990), I find no clear and confirmative evidence that appointment of independent directors of any particular occupation is more or less favourable to the stock market reaction, although the coefficient on LAW is positive and significant at 0.05 level in the mean model.

[Table 7.10 goes about here]

Table 7.10 OLS Regression for Full Sample – Model 7.8

This table reports the regression result of the full sample. The sample consists of 165 firms listed in the Shanghai Stock Exchange (SHSE) and the Shenzhen Stock Exchange (SZSE) for the period 1998-2002. The dependent variables are CAR from the market model and CAR from the mean model respectively. The independent variables are: (1) IND, proportion of independent directors on board; (2) MANSTOCK, percentage of equity shares owned by directors and senior managers at the financial year-end prior to the appointment announcement; (3) MANSTOCK*IND, interactive variables of MANSTOCK and IND; (4) FINANCE, proportion of those from financial institutions among independent directors; (5) LAW, proportion of those from law institutions among independent directors; (6) CPA, proportion of those from CPA institutions among independent directors; (7) CORPORATE, proportion of those from other corporations among independent directors; (8) ACADEMIC, proportion of those from academic institutions among independent directors; (9) GOVERNMENT, proportion of those from government affiliated bodies among independent directors; (10) NEUTRAL, proportion of those with any primary affiliation other than the above among independent directors; (11) BOARDSIZE, the total number of directors after the appointment of independent directors; (12) SIZE, logarithm of book value of total assets at the financial year-end prior to the appointment announcement. For independent variables, IND, MANSTOCK, MANSTOCK*IND, FINANCE, CORPORATE and NEUTRAL, one-tail t-test is employed, and for other independent variables, two-tailed t-test is employed. ***, **, and * indicate significant at 1 percent, 5 percent, and 10 percent level, respectively.

$$CAR_{it} = \alpha + \beta_1 IND + \beta_2 MANSTOCK + \varphi_1 MANSTOCK * IND + \eta_1 FINANCE + \eta_2 LAW + \eta_3 CPA + \eta_4 CORPORATE + \eta_5 ACADEMIC + \eta_6 GOVERNMENT + \eta_7 NEUTRAL + \lambda_1 BOARD + \lambda_2 SIZE + \varepsilon_{it}$$

	CAR-Market Model		CAR-Mean Model	
	Coefficient	t-stat	Coefficient	t-stat
Intercept	0.899	2.943***	0.701	2.291**
IND	-0.067	-0.780	-0.060	-0.694
BOARDSIZE	-0.154	-1.771*	-0.155	-1.810*
MANSTOCK	-0.097	-1.145	-0.096	-1.135
MANSTOCK*IND	0.159	1.939***	-0.217	2.202***
SIZE	-0.064	-0.763	-0.005	-0.055
FINANCE	0.044	0.534	0.082	0.985
LAW	0.063	0.771	0.125	1.716**
CPA	-0.025	-0.291	-0.039	-0.453
CORPORATE	0.073	0.850	-0.041	-0.472
ACADEMIC	N/A	N/A	N/A	N/A
GOVERNMENT	0.05	0.609	0.008	0.095
NEUTRAL	0.050	0.565	-0.110	-1.241
Adj-R ²	0.063		0.031	
F-	3.935		3.404	

7.6.5 Explaining Returns by Interactive Effect of Agency Problems and Independent Director's Primary Occupation

The above two sections test the impact of equity ownership by senior managers and primary occupation of independent directors on the market reaction to their announcements respectively. There is no apparent evidence that announcement-period returns vary with appointees' primary occupation. In this section, the following OLS regression model is used to test the joint effects of agency problems and appointee's occupation on abnormal return during the announcement period:

$$\begin{aligned}
 CAR_{jt} = & \alpha + \beta_1 IND + \beta_2 MANSTOCK + \varphi_1 MANSTOCK * IND + \eta_1 FINANCE + \eta_2 LAW + \eta_3 CPA \\
 & \eta_4 CORPORATE + \eta_5 ACADEMIC + \eta_6 GOVERNMENT + \eta_7 NEUTRAL \\
 & + \varphi_2 FINANCE * MANSTOCK + \varphi_3 LAW * MANSTOCK + \varphi_4 CPA * MANSTOCK + \\
 & \varphi_5 CORPORATE * MANSTOCK + \varphi_6 ACADEMIC * MANSTOCK + \varphi_7 GOVERNMENT * MANSTOCK \\
 & + \varphi_8 NEUTRAL * MANSTOCK + \lambda_1 BOARDSIZE + \lambda_2 SIZE + \varepsilon_{jt} \quad (7.9)
 \end{aligned}$$

Table 7.11 presents the findings of Model 7.9. White-corrected t-statistics are also reported in order to control for heteroskedasticity. One-tailed tests are used where there are specific predictions regarding the sign of the estimated coefficients ($\beta_1, \beta_2, \varphi_1, \varphi_2, \varphi_5, \varphi_8, \eta_1, \eta_4$, and η_7), otherwise two-tailed tests are employed. Overall, there is no significant evidence from the two regressions that the market response will be jointly determined by the magnitude of the agency problem and independent appointees' primary occupations, although there is positive and significant coefficient on variable CORPORATE and CORPORATE*MANSTOCK respectively. These findings indicate that there is a more favourable market reaction to announcement of appointment of corporate independent directors when there are large agency problems.

[Table 7.11 goes about here]

Table 7.11 OLS Regression for Full Sample – Model 7.9

This table reports the regression result of the full sample. The sample consists of 165 firms listed in the Shanghai Stock Exchange (SHSE) and the Shenzhen Stock Exchange (SZSE) for the period 1998-2002. The dependent variables are CAR from the market model and CAR from the mean model respectively. The independent variables are: (1) IND, proportion of independent directors on board; (2) MANSTOCK, percentage of equity shares owned by directors and senior managers at the financial year-end prior to the appointment announcement; (3) MANSTOCK*IND, interactive variables of MANSTOCK and IND; (4) FINANCE, proportion of those from financial institutions among independent directors; (5) LAW, proportion of those from law institutions among independent directors; (6) CPA, proportion of those from CPA institutions among independent directors; (7) CORPORATE, proportion of those from other corporations among independent directors; (8) ACADEMIC, proportion of those from academic institutions among independent directors; (9) GOVERNMENT, proportion of those from government affiliated bodies among independent directors; (10) NEUTRAL, proportion of those with any primary affiliation other than the above among independent directors; (11) FINANCE*MANSTOCK, Interactive variables of FINANCE and MANSTOCK; (12) LAW*MANSTOCK, interactive variables of LAW and MANSTOCK; (13) CPA*MANSTOCK, interactive variables of CPA and MANSTOCK; (14) CORPORATE*MANSTOCK, interactive variables of CORPORATE and MANSTOCK; (15) ACADEMIC*MANSTOCK, interactive variables of ACADEMIC and MANSTOCK; (16) GOVERNMENT*MANSTOCK, interactive variables of GOVERNMENT and MANSTOCK; (17) NEUTRAL*MANSTOCK, interactive variables of NEUTRAL and MANSTOCK; (18) SIZE, logarithm of book value of total assets at the financial year-end prior to the appointment announcement; (19) BOARDSIZE, the total number of directors after the appointment of independent directors. For independent variables, IND, MANSTOCK, MANSTOCK*IND, FINANCE, CORPORATE, NEUTRAL, FINANCE*MANSTOCK, CORPORATE*MANSTOCK, and NEUTRAL*MANSTOCK, one-tail t-test is employed, and for other independent variables, two-tailed t-test is employed. ***, **, and * indicate significant at 1 percent, 5 percent, and 10 percent level, respectively.

$$CAR_{jt} = \alpha + \beta_1 IND + \beta_2 MANSTOCK + \phi_1 MANSTOCK * IND + \eta_1 FINANCE + \eta_2 LAW + \eta_3 CPA + \eta_4 CORPORATE + \eta_5 ACADEMIC + \eta_6 GOVERNMENT + \eta_7 NEUTRAL + \phi_2 FINANCE * MANSTOCK + \phi_3 LAW * MANSTOCK + \phi_4 CPA * MANSTOCK + \phi_5 CORPORATE * MANSTOCK + \phi_6 ACADEMIC * MANSTOCK + \phi_7 GOVERNMENT * MANSTOCK + \phi_8 NEUTRAL * MANSTOCK + \lambda_1 BOARDSIZE + \lambda_2 SIZE + \varepsilon_{jt}$$

	CAR-Market Model		CAR-Mean Model	
	Coefficient	t-stat	Coefficient	t-stat
Intercept	1.110	2.142**	0.755	1.503
IND	-0.196	-1.675**	-0.183	-1.618**
BOARDSIZE	-0.106	-1.088	-0.131	-0.187
MANSTOCK	-0.112	-1.347	0.091	1.127
MANSTOCK*IND	0.151	1.818**	-0.01	-0.118
SIZE	-0.055	-0.643	-0.032	-0.388
FINANCE	-0.019	-0.163	0.110	0.957
LAW	-0.033	-0.299	0.080	0.747

Table 7.11 OLS Regression for Full Sample – Model 7.9 (Continued)

	CAR-Market Model		CAR-Mean Model	
	Coefficient	t-stat	Coefficient	t-stat
CPA	-0.004	-0.037	-0.008	-0.087
CORPORATE	0.341	1.785**	0.36	1.946***
ACADEMIC	-0.228	-1.082	-0.092	-0.452
GOVERNMENT	-0.001	-0.002	-0.058	-0.461
NEUTRAL	-0.058	-0.367	-0.121	-0.797
FINANCE*MANSTOCK	0.005	0.040	0.089	0.731
LAW*MANSTOCK	0.014	0.102	0.113	0.829
CPA*MANSTOCK	0.048	0.311	-0.313	-2.108***
CORPORATE*MANSTOCK	0.426	2.824***	0.417	2.854***
ACADEMIC*MANSTOCK	0.178	1.166	0.091	0.614
GOVERNMENT*MANSTOCK	-0.132	-1.009	0.17	1.346
NEUTRAL*MANSTOCK	-0.045	-0.407	0.05	0.471
Adj-R ²	0.124		0.178	
F-	9.801		16.501	

7.7 Further Tests and Robustness Checks

7.7.1 Does the Market Expect Benefits of The Appointment of Independent Directors?

In August 2001, CSRC issued the “Directive Suggestions on Establishing Independent Directors Monitoring Mechanism in Listed Companies” to require that all listed companies appoint at least two independent directors before June 2002, and at least one third of directors before June 2003. Therefore, it is thought that the stock market would have had expectation of benefits of independent directors appointment after August 2001. Thus, as hypothesis H10, there would be significantly positive market reaction to the appointment of independent directors before this month.

In order to test the prediction, this section examines the abnormal return of announcements before the August 2001. There are 59 announcements before the month. Table 7.12 presents the average abnormal return (AAR) over days -14 to $+14$ of the stock market reaction to the appointment of independent directors using the two models for the sub-sample. As the full sample, the findings seem also to reject the H10 because there is no significantly positive market reaction of announcement of independent directors appointment, although the AAR on event day is positive and fairly significant at 0.10 level under the mean model.

Table 7.13 reports the findings of average cumulative abnormal return (CAR). Compared to the full sample, although all of CARs are positive under the two models, none of them is significant at traditional levels. Overall, this evidence corroborates findings by Mak et al. (2003), and Lin et al. (2003), that shareholders cannot obtain direct wealth benefits from the appointment of independent directors.

**Table 7.12 AAR of Independent Directors Appointment
Announcements for Sub-Sample Before August 2001**

Average Abnormal Return (AAR) and corresponding t-statistics are reported for the sub-sample of 59 announcements of companies listed on Shanghai Stock Exchange and Shenzhen Stock Exchange Jan. 1998 to July 2001. *, **, and *** indicate significant at 1%, 5%, and 10% level, respectively.

Day (t)	Market-adjusted Model		Mean-adjusted Model	
	AAR _t	t-stat	AAR _t	t-stat
-14	0.00%	0.001	-0.01%	-0.078
-13	-0.04%	-0.440	-0.05%	-0.43
-12	0.10%	0.815	0.15%	1.426
-11	-0.09%	-1.111	-0.08%	-0.663
-10	-0.03%	-0.274	-0.04%	-0.301
-9	-0.08%	-0.719	-0.13%	-1.071
-8	0.00%	0.002	-0.07%	-0.419
-7	0.00%	0.042	0.07%	0.647
-6	-0.06%	-0.650	-0.04%	-0.32
-5	-0.06%	-0.577	0.01%	0.044
-4	0.02%	0.171	-0.05%	-0.353
-3	-0.02%	-0.229	0.04%	0.287
-2	0.10%	1.045	0.13%	1.165
-1	0.02%	0.226	0.05%	0.384
0	0.23%	1.501	0.27%	1.844*
1	0.12%	0.798	0.09%	0.504
2	-0.03%	-0.267	0.09%	0.632
3	-0.14%	-1.306	-0.15%	-1.181
4	0.14%	1.104	0.14%	0.949
5	0.14%	1.175	0.14%	0.92
6	-0.06%	-0.691	-0.06%	-0.629
7	0.15%	1.575	0.11%	1.059
8	-0.10%	-1.048	-0.09%	-0.849
9	-0.16%	-1.432	-0.08%	-0.735
10	0.01%	0.118	0.16%	1.164
11	-0.03%	-0.292	-0.09%	-0.901
12	-0.03%	-0.348	-0.06%	-0.423
13	-0.08%	-0.990	-0.05%	-0.519
14	-0.02%	-0.197	-0.06%	-0.502

Table 7.13 CAR of Independent Directors**Appointment Announcements for Sub-Sample Before August 2001**

Cumulative Abnormal Return (CAR) and corresponding t-statistics are reported for the sub-sample of 59 announcements of companies listed on Shanghai Stock Exchange and Shenzhen Stock Exchange Jan. 1998 to July 2001. *, **, and *** indicate significant at 1%, 5%, and 10% level, respectively.

Day (t ₁ , t ₂)	Market-adjusted Model		Mean-adjusted Model	
	CAR _t	t-stat	CAR	t-stat
(-14,+14)	0.02%	0.041	0.34%	0.448
(-10,+10)	0.21%	0.432	0.52%	0.809
(-5,+5)	0.53%	1.279	0.68%	1.205
(-1,+1)	0.37%	1.529	0.45%	1.482
(-14,0)	0.11%	0.256	0.34%	0.681
(-10,0)	0.13%	0.405	0.35%	0.870
(-5,0)	0.29%	1.104	0.51%	1.460
(-1,0)	0.25%	1.503	0.35%	1.420

As in Table 7.5 and 7.5, it is quite interesting that similar findings are found, though not presented in tables. They show that there are more significantly positive AARs and CARs for companies listed in Shenzhen Stock Exchange than in Shanghai Stock Exchange under the two models (there are 43 and 16 announcements from Shenzhen and Shanghai respectively).

7.7.2 Does the Quality of Independent Directors Matter?

Lin et al. (2003) claim that one of important determinants of the effectiveness of independent directors in reducing agency costs is their own quality. Shivdasani (1993) reports a negative association between independent director quality (measured by the number of additional directorships held in other firms) and the failure of internal control systems for a sample of firms subject to hostile takeover bids. Mak et al. (2003) document that appointing non-executive directors who hold multiple directorships is viewed positively by the market. Furthermore, Brickley et al. (1999), Gilson (1990), and Kaplan and Reishus (1990) report that executives of poorly performing firms are less likely to hold additional independent directorships.

Therefore multiple independent directorships (MULTIDIR) are used as a proxy for quality of independent directors, which is equal to one when one independent director has at least two independent directorships, and zero otherwise. After adding MULTIDIR as an independent variable, the regressions are repeated based on models 8.7, 8.8 and 8.9. However, there is no clear evidence that the quality of independent directors can explain the announcement-period returns (not presented in tables). Interactive variables of MULTIDIR and other variables are employed, such as IND, FINANCE, LAW and CPA,

and there is no findings that they can jointly explain the returns.

7.7.3 Other Tests

This subsection reports the results of several sensitivity tests. Following Rosentein and Wyatt (1990), it replaces the discrete occupation variables, such as FINANCE, LAW and CPA, with dummy variables. However, the results reported earlier are unaffected.

As in Mak et al. (2003) and last Chapter, I further classify the outside directors into independent directors and affiliated directors. However, I still fail to find that there is significant market reaction to the appointment of independent directors, or affiliated directors²³.

As showed in Table 7.8, Chinese senior managers have little equity ownership of their companies compared to their western counterparts. Therefore, employing the equity ownership of senior management as proxy for agency problems may be weak (Lin et al., 2003). Following Xue (2000) and Li (2002), this section uses the proportion of equity ownership by the biggest shareholders as proxy for agency problems. The regressions based on model 7.7, 8.8 and 8.9 are repeated. Again, earlier results are not qualitatively affected.

A last concern about the above results is the systematic difference in companies listed in Shanghai and Shenzhen, as findings in Table 7.5 and 8.5. Therefore this section classifies the full sample of 165 observations into two sub-samples of companies listed in Shanghai (60) and Shenzhen (105) respectively. The regressions based on model 7.7, 8.8 and 8.9 are repeated. However, there is no evidence that agency problems and primary occupation of independent can be alone or jointly explain the announcement-period

²³ The definition of affiliated directors is discussed in Chapter 5.

returns.

7.8 Summary

This chapter employs the standard event study methodology to examine the stock market reaction to appointment of independent directors to boards of Chinese listed companies and whether this reaction is conditional on magnitude of agency problems, size of independent directors, primary occupation of independent directors and their quality.

Since the first published event study by Dolley (1933), the event study methodology has been widely used in accounting and finance as well as economics to examine security price behaviour around a lot of events. In this chapter, I employ the market model and the mean model to calculate the announcement-period abnormal returns.

As Lin et al. (2003) and Mak et al. (2003), this study finds positive but insignificant market reaction to the appointment of independent directors for the full sample and the sub-sample before the August 2001, which indicates that shareholders cannot directly benefit from just appointment of independent directors, or the market does not believe that independent directors cannot play any significant role in monitoring managers. However, it is interesting to note that there is more significantly positive reaction to the announcements of companies listed in Shenzhen Stock Exchange than in Shanghai Stock Exchange.

There is no clear evidence that the magnitude of agency problems, size of independent directors, primary occupation of independent directors, and their quality alone can explain the announcement-period returns. But the findings show that the market

response to independent directors appointments depends crucially on the interaction between the magnitude of the agency problem and the size of independent directors appointed. In addition, there is evidence that there is higher favorable market reaction to announcement of appointment of independent directors who are senior managers of other companies when there are large agency problems in the appointment firms.

Finally, there is no clear evidence that the quality of independent directors can explain the announcement-period returns. The results of this chapter are also robust for several sensitivity tests.

Chapter 8 Conclusions and Policy Implications

8.1 Introduction

The purpose of this study is to examine the relationship between board of directors and corporate performance in China. In particular, it attempts to identify the effects of four attributes of BoD – board composition, characteristics of directors, board structure and board process – on the financial performance of Chinese listed companies.

A large number of empirical studies have examined the correlation between BoD and corporate performance. Few of them have examined the effects of BoD on both direct shareholder wealth and company financial performance. Moreover, little attention has been paid to this topic in a Chinese context. The dissertation makes several important contributions to the empirical literature. Meanwhile, this study also has implications for policy makers insofar as it offers empirical evidence concerning effectiveness of BoD in improving financial performance of Chinese listed companies.

This study examines the relationship between the BoD and corporate performance from two perspectives. First, it employs the typical event study methodology —the market-adjusted model and the mean-adjusted model— to determine whether the market considers the appointment of directors as good news. It also uses multi-regression models to examine factors that affect the abnormal returns on the event data. Second, it mainly utilises Ordinary Least Regression (OLS) multi-variables models to test the effects of BoD on company financial performance.

This rest of the chapter, first, presents the main findings and conclusions of the paper. Second, it reports contribution of the study. Third, it discusses policy implications.

Finally, it analyses the limitations of this research and presents some future research opportunities.

8.2 Main Findings

8.2.1 Board Composition

Board Independence. As Baysinger and Butler (1985), Barmhart et al. (1994), Millstein and MacAvoy (1998), Fuerst and Kang (2000), Coles et al. (2001) and Postma, et al. (2002), this study finds relatively limited evidence that board independence has significant impacts on corporate performance. In particular, there is some evidence that there is non-linear relationship between board independence and firm performance. When the proportion of independent directors on board is between 30 percent and 50 percent, there is evidence that the proportion of independent directors has significantly positive impacts on corporate future performance.

Affiliated Directors and Board Size. There is no negative relation predicted by Hypothesis H1a between the proportion of affiliated directors on board and firm current or future performance, as found by Byrd and Hickman (1992), and Walsh and Seward (1990). Further, unlike findings by Yermack (1996), and Eisenberg et al. (1998), there is no significantly negative correlation between board size and firm current performance. In addition, there is no non-linear relationship between board size and current performance.

8.2.2 Incentives of Independent Directors

As Bhagat and Black (2000), there is no confirmative evidence that stock ownership and cash compensation of independent directors have any positive effects on

current corporate financial performance. However, there is strong evidence that firm performance depends crucially on the interaction between the magnitude of cash compensation of independent directors and the size of them on board. In addition, there is no evidence that the incentives of independent directors have any curvilinear effects on current performance.

8.2.3 Characteristics of Independent directors

I find that age and primary occupation of independent directors have no significant impacts on firm performance. However, I find that the presence of overseas independent directors has significantly positive impacts on corporate performance. Interestingly, there is a significantly negative correlation between the proportion of female independent directors and corporate performance.

8.2.4 Board Structure

As Jarrell et al. (1988), Fromson (1990), Hersch and McDougall, and Baliga et al. (1996), there is no clear evidence that CEO duality has any negative impact on current financial performance. However, there is a significantly negative relationship between multi-directorship and firm performance. In addition, there is limited evidence that auditing committee has significantly positive impact on corporate performance.

8.2.5 Board Process

In contrast to findings by Vafeas (1999), and Xie et al. (2001), there is no significantly positive correlation between the frequency of board meeting and firm

financial performance. However, there is strong evidence that firm performance depends crucially on the interaction between the frequency of board meeting and the size of independent directors appointed. In particular, there is confirmative evidence that frequency of board meeting has curvilinear effect on firm performance.

8.2.6 Sources of Directors

There is no clear evidence that the proportion of directors appointed by government agents control shareholders has any negative impacts on corporate performance. However, there is significantly negative correlation between the proportion of directors appointed by SOE control shareholders and company performance. In addition, the relationship between the proportion of directors appointed by SOE control shareholders and company performance is non-linear.

8.2.7 Market Reaction to Appointment of Independent Directors

As Lin et al. (2003), and Mak et a. (2003), this study only finds positive but insignificant market reaction to the appointment of independent directors for the full sample and the sub-sample before the August 2001, which indicates that shareholders cannot directly benefit from just appointment of independent directors, or the market does not believe that independent directors can play any hard role in monitoring managers. However, it is interesting to note that there is more significantly positive reaction to the announcements of companies listed in Shenzhen Stock Exchange than in Shanghai Stock Exchange.

There is no clear evidence that the magnitude of agency problems, size of

independent directors, primary occupation of independent directors, and their quality alone can explain the announcement-period returns. But the findings show that the market response to independent directors appointments depends crucially on the interaction between the magnitude of the agency problem and the size of independent directors appointed. In addition, there is higher favorable market reaction to announcement of appointment of independent directors who are senior managers of other companies when there are large agency problems in the appointment firms.

Summary of results of hypotheses tests is presented in Table 8.1.

[Table 8.1 goes about here]

Table 8.1 Summary of Hypotheses Tests Results

	Hypotheses	Test Results
H1a	Ceteris paribus, the proportion of independent directors on board is positively related to the performance of Chinese listed companies	Partly fail to reject
H1b	Ceteris paribus, the proportion of affiliated directors on board is not positively related to the performance of Chinese listed companies	Reject
H2	Ceteris paribus, the board size is likely to be negatively related to the performance of Chinese listed companies	Reject
H3	Ceteris paribus, there is a positive relationship between proportion of stock ownership and cash compensation of independent directors and corporate performance	Reject
H4	Ceteris paribus, characteristics of independent directors, such as educational background, age and primary occupation, have significant effects on corporate performance	Partly fail to reject
H5	Ceteris paribus, CEO duality is likely to be negatively related to the performance of a Chinese listed company	Reject
H6	Ceteris paribus, multiple directorships are negatively related to the performance of a Chinese listed company	Fail to reject
H7	Ceteris paribus, frequency of board meetings is positively related to the performance of a Chinese listed company	Reject
H8	Ceteris paribus, the higher the proportion of directors appointed by government agents shareholders, the worse the company performance	Reject
H9	Ceteris paribus, the higher the proportion of directors appointed by state-owned corporate shareholders, the better the company performance	Reject
H10	Ceteris paribus, there is positive market reaction to appointment of independent directors of Chinese listed companies.	Fail to reject

8.3 Discussion and Policy Implications

8.3.1 Discussion

The findings summarized in Table 8.1 reflect current reality of corporate governance in China. As the economy in China, the corporate governance is also in transition. Overall, this study does not find similar evidence as found in Western developed countries.

8.3.1.1 Does Board Independence Matter?

According to agency theory, the viability of the board as an internal control mechanism is enhanced by the inclusion or new appointment of independent directors because they have incentive to develop reputations as experts in decision making and because the external market for their services prices them according to their performance as independent directors. Meanwhile, resource dependence theory argues that the inclusion of new independent directors to the board could be beneficial for a number of reasons. On the one hand, they can bring a fresh and dynamic impetus to the operation of the firm. Extensive experience and knowledge can also be introduced. On the other hand, because of their prestige in their profession and communities, independent directors are able to extract resources for successful company operations.

Interestingly, this study only finds limited evidence that the higher board independence, the better corporate performance. It seems to reflect the reality of current development of corporate governance in China. A possible reason is that today's "independent" directors are not independent enough. Perhaps, as Gilson and Kraakman (1991, p865) argue, "corporate boards need directors who are not merely independent [of management], but who are *accountable* [to shareholders] as well." In China, as noted in the Chapter 4, the vast majority of independent directors are nominated and appointed by

controlling shareholders and/or their watchdogs—managers. How can they be independent from management or controlling shareholders, how can they monitor opportunistic behavior of managers, and expropriation of controlling shareholders through creative ways, and how can they increase corporate performance by fulfilling their accountability and responsibility?

It is also plausible that some directors who are classified as being independent are not truly independent of management, because they are beholden to the company or its current CEO in ways too subtle to be captured in customary definitions of “independence.” For example, some nominally independent directors may serve as paid advisors or consultants to a company in China, or may be employed by a university or foundation that receives financial support from the company. Unfortunately, the data needed to capture these relationships are not available from public sources.

Perhaps, too, some directors have personal relationships with the CEOs that affect their independence. This possibility is consistent with evidence that directors who were appointed during the current CEO’s tenure are more generous in determining the CEO’s compensation (Holthausen and Larcker, 1993a; Yermack, 1997). In China, it is even said that relationship or “Guan Xi” is able to decide everything. Independent directors generally come from “old boys network” of the CEOs. They cannot challenge managers due to fearing to damage the relationship (Wei, 2002).

Third, perhaps some types of independent directors are valuable, while others are not (Bhagat and Black, 2000). Maybe the majority of independent directors are too busy with their own business, and/or know too little about a different business of their appointing companies. Maybe “visibility” directors -- well-known persons with limited

business experience, often holding multiple directorships and adding gender or racial diversity to a board, are not effective on average.

A fourth possibility, implicit in Klein's (1998) research on board committee structures, is that independent directors can add value, but only if they are embedded in an appropriate committee structure. However, in China, most listed companies just have such committee structures—audit, compensation, strategic, and nominating committees—from 2002. Their monitoring and strategic functions are still expected.

8.3.1.2 Does The Market Believe Independent Directors?

According to agency theory, if board independence can reduce agency costs and as a result improve corporate performance, the stock market should be welcome the appointment of independent directors on board. As noted in Chapter 4, it is the special ownership structure and incomplete corporate governance mechanism in China that result in series of financial scandals and frequent cases of large shareholders exploitation and appropriation. Therefore, it is expected the market should absolutely welcome the appointment of independent directors in China. Surprisingly, this study finds that there is only positive but insignificant market reaction to the appointment.

One possible explanation for the unexpected findings is that the market is skeptical about the monitoring effectiveness of independent directors and does not believe that the appointment of several independent directors will benefit them directly. As argued by Mace (1986) and Patton and Baker (1987), independent directors lack the necessary time, expertise and incentives to perform their duties effectively and this has led many commentators to express doubts about their ability to make a meaningful contribution to

shareholder wealth creation. One can argue that this is even more likely in an emerging market like China.

Second, as noted by above, the independence of independent directors is in doubt. In addition, most of independent directors are incapable of fulfilling their duties to monitor managers due to their limited experience or knowledge. Third, as discussed in Chapter 4, there is still no formal legal regulation or act about protecting interests of independent directors. Under such circumstances, there is no legal protection for independent directors for those who challenge controlling shareholders or their watchdogs. So, how can we believe independent directors are able to do rights things for minority shareholders?

Fourth, as noted by Lin et al. (2003), an alternative explanation for the lack of any significant market reaction to the announcement of independent directors appointment is that market participants systematically anticipated these appointments prior to their official announcement on the public media. It is possible that the market is so smart to effectively anticipate the effect of the announcements and digest the information before its release.

Finally, there is evidence that the stock market in China is not even semi-efficient (e.g., Wei, 1998; Xue, 2001; Li, 2002). As noted above, the methodology is drawing on the efficient market hypothesis, which suggests that capital markets are efficient mechanisms that process all relevant information available about current and future benefits to determine the stock price of firms. Therefore, the lower efficiency of China stock market not efficient enough to employ the event study methodology to capture impacts of the appointment of independent directors on stock price.

8.3.1.3 Are Board Incentives too Small to Work?

Agency theory suggests that substantial equity ownership by independent directors creates a personally-based incentive to actively monitor. Bhagat et al. (1999) argue that to increase monitoring effectiveness of independent directors, they must become a shareholder. As noted by Vance (1983) and Geneen (1984), by providing independent directors with a financial stake in the performance of firms through incentive-based compensation, firms can better align the interests of independent directors and shareholders. Surprisingly, this study finds that there is no confirmative evidence that stock ownership and cash compensation of independent directors have any positive effects on corporate financial performance.

This evidence also reflects current reality of incentives of Chinese independent directors. As mentioned in Chapter 6, the level of compensation and equity ownership of independent directors in China is rather lower than in developed countries. The average annual cash compensation of them is only RMB 26,252 (about US\$3,201), and the maximum compensation is RMB 260, 000 (about US\$ 31,707). Independent directors hardly have any shares of their appointing companies. By contrast, in American companies, Bhagat and Black (2000) report that the average equity ownership held by independent directors is 2.80 percent and Ferris et al. (2004) even report a 5.84 percent. Brick et al. (2002) presents that mean annual cash compensation for independent directors is US\$ 42,522 in US companies.

8.3.1.4 Too Busy to Mind the Business?

Agency theory argues that multiple board appointments can signal director quality

(Fama and Jensen, 1983). The appointment to numerous boards might be the result of the superior performance enjoyed earlier by the firm for which the individual serves as a director or as an executive. Brown and Maloney (1996) find that firms enjoy superior returns from acquisitions when they have directors who hold multiple directorships.

However, recent discussion on corporate governance reforms suggests that outside directors may become less effective as they serve on 'too many' boards to attend to their duties adequately. Shivdasani and Yermack (1999) suggest that directors can become over-committed when serving on multiple boards, rendering them unable to provide meaningful managerial monitoring. Core et al. (1999) report that the presence of directors holding multiple appointments correlates with excess CEO compensation, implying that such directors serve as an inadequate check on management. Similarly, this study finds that there is a significantly negative relationship between multi-directorship and firm performance.

According to one survey by Shanghai Stock Exchange in 2003, there are no full time independent directors in China, and most of them are celebrities from famous universities or other institutions. Majority of them have several directorships of listed or unlisted companies. They hardly have enough time to deal with complicated business issues and even attend twenty or more board meetings in one year. Meanwhile, most of independent directors have no necessary financial knowledge to interpret financial position of their appointing companies. Therefore, this evidence seems to also reflect the reality of independent directors in China.

8.3.2 Policy Implications

As pointed out by Tam (2000), neither the establishment of a modern corporate system nor the development of a corporate governance model in China would by itself deliver every reform goals and serve as a panacea for all the problems. Instead, in developing corporate governance arrangements that is more appropriate to China's economic conditions and social realities, the process could serve as a powerful focal point for contemplating and bringing about other related changes at the macro and micro levels to produce improved outcomes in key areas including corporate performance. However, as noted in the Chapter 5 and 7, the current corporate governance arrangements in China, judged against the conventional criteria in the Anglo-American model, have not been so effective and are unlikely to provide the means to achieve the desired objectives.

As noted above, it is clear that setting up the nominal structures of corporate governance is not equivalent to having that functioning system. If a choice had to be made, it should be about the direction of the development path rather than the stylized model (Tam, 2000). Apart from this broad question of the governance model, there also exist several specific issues that are critical to developing of corporate governance arrangements for China's prospective.

(1) Improving independence of BoD. Introducing independent director has already been proved an important arrangement to improve monitoring effectiveness of BoD by western companies (Baysinger and Butler, 1985; Barmhart, Marr and Rosenstein, 1994; Monks and Minow, 1995, 2001). This study also finds limited evidence that there is significantly positive correlation between board independence and Chinese firm performance. However, there is no standard to decide what the optimal proportion is

between directors and independent director in BoD and how to appoint independent directors. In fact, it is large shareholders or managers who appoint them. In order to enhance independence of BoD, it is imperative that there should be a nominating committee in the board to appoint independent directors. On the hand, it is necessary to revise the Corporate Act in 1993 to clearly define the rights and obligation of independent directors and stipulate their nomination procedure.

(2) Setting up independent directors dominated sub-committees. Among the sub-committees established currently in the BoD of Chinese listed companies, nominating committees, auditing committees, and compensation committees are composed predominantly of inside directors (Li, 2003; Wei, 2002a). Klein (1998), Conyon and Peck (1998), Daily et al. (1998), Peasnell et al. (2000), Chtourou, Bédard, and Courteau (2001), and Klein (2002) report evidence that independent directors dominated sub-committees have positive effects on their monitoring role. This study fails to find such evidence in China. Therefore, in order to improve monitoring effectiveness of BoD in Chinese listed companies, it is necessary to make independent directors dominate sub-committees in the board.

(3) Aligning interests of independent directors with those of shareholders. It has been suggested that relatively substantial equity ownership by independent directors creates a personally-based incentive to improve monitoring effectiveness corporate performance (e.g., Kesner, 1987, Bhagat et al., 1999, and Brick et al., 2002). Fama and Jensen (1983), and Jensen (1986; 1993) argue that independent directors should be compensated using some type of equity-based incentives arrangement to make them “think like shareholders”. Compared to their western counterparts, independent directors

in China have little stock ownership and cash compensation. Therefore, Chinese listed companies can consider compensating independent directors by stock ownership and competitive compensation to improve their monitoring effectiveness.

(4) Improving commitment of independent directors to companies. After recent financial scandals of US, it has been suggested that independent directors would become less effective as they serve on ‘too many’ boards to attend to their duties adequately. The findings of the study also support this argument. However, although CSRC limits multiple directorships to five, it is argued that five may be too unrealistic (e.g., Li, 2003, and Lin et al., 2003). Therefore, on the one hand, the authorities should issue strict regulations to improve commitment of independent directors, and at the same time, they may consider decreasing number of maximum of multi-directorship. On the other hand, it is necessary to recommend introduction of full-time independent directorship in China.

8.4 Contribution of the Study

8.4.1 To The Literature

The dissertation makes several important contributions to the corporate governance literature. First, this study contributes to the literature by extending the mainly U.S. based board literature to China where there are important institutional differences in ownership structure and corporate governance system. Drawing on agency and resource dependence theories, this study extends the debate on the BoD and firm performance link to emerging economies, by addressing this theoretically important but empirically under-studied question in China. On the one hand, a focus on China is theoretically important, because it allows us to investigate the link between BoD and firm performance in an

under-explored context. Since so much work is U.S.- based, this study can be positioned as a ‘replication with extension’ (Hubbard et al.,1998: 246). In addition, it is necessary to employ the popular agency theory to explain the impacts of BoD on corporate performance under special institutional background of China.

On the other hand, empirically, given that China is already the largest emerging economy (in terms of GDP) and the largest recipient of foreign direct investment (2002) and is likely to become the second largest economy in the world in the foreseeable future, we need to know more about ‘what is going on there’ if the field aspires to become globally relevant. In addition, from a policy standpoint, despite consistent non-findings for the BoD directors/firm performance link in the West (Dalton et al., 1998), this link is still important because the evident belief in its existence embodied in the new Chinese regulations (CSRC, 2001), in the absence of concrete empirical evidence (Clarke, 2002), necessitates rigorous empirical scrutiny.

Second, this dissertation extends studies such as Baysinger and Butler (1985), Weisbach (1988), Hermalin and Weisbach (1991), Yermack (1996), Bhagat and Black (1999), Lin and Lau (2001), Cyert et al. (2002), and Peng (2004) by examining a more precise relation between BoD and corporate performance. Specifically, it attempts to identify the impacts of four attributes of BoD — composition, characteristics, leadership structure and process — on financial performance of Chinese listed companies.

Third, this study refines the measurement of board composition with careful consideration of the unique Chinese institutional context. The distinction between independent and affiliated directors is meaningful because these two measures highlight the differences among directors in terms of their motivation, firm-specific knowledge,

information advantage, interpersonal relationship with the top managers, and mutual trust with the managers. By distinguishing two different types of directors we are closer to the objective of “matching” board composition measure with concepts of different corporate governance theories.

Overall, this paper mainly examines agency theory in special institutional background of China and has limited support to it. This paper only finds relatively limited evidence that board independence can result in better corporate performance. Furthermore, this paper only finds positive but insignificant market reaction to the appointment of independent directors. Contrary to expectation of agency theory, this paper fails to find any confirmative evidence that incentives of independent directors have any significantly positive impacts on firm performance. Meanwhile, agency theory argues that multiple board appointments can signal director quality (Fama and Jensen, 1983). However, this study finds different evidence that there is a significantly negative relationship between multi-directorship and firm performance.

Agency theory has come under criticism in recent years (Blair, 1995; Perrow, 1986). The criticism is centered on agency theory’s oversimplified “economic man” assumptions and its limited ability to explain complex sociological and psychological mechanisms inherent of the principal-agent interactions (Davis and Thompson, 1994; Davis et al., 1997). As discussed in Chapter 4, a special case with most Chinese companies is that the state or its agents carry out shareholder functions otherwise performed by private owners in market economies. Numerous studies have noted the state’s incapability as a shareholder (Broadman, 1999; Chen, 1997; Gray, 1996). Therefore, the ability of the directors who represent the state to monitor the managers is questionable. It is unrealistic

to expect, under current framework of corporate governance in China, that the directors presenting the state are able to exert effective control over the management. As for the independent directors representing other minority institutional shareholders, it is also suspected that they lack either motivation to monitor the top managers due to their limited influential power or necessary knowledge about the business operation of the company. Therefore, it seems to be understandable that findings of this study only have limited support to agency theory.

However, this study enriches resource dependence theory by examining impacts of international background and gender of independent directors on corporate performance. As far as I know, this research is the first one to find that the presence of independent directors with overseas background has significantly positive effects on firm performance, and that there is a significantly negative relationship between the proportion of female independent directors and corporate performance.

8.4.2 To Policy Makers and Investors

This study also has implications for policy makers insofar as it offers empirical evidence concerning effectiveness of Chinese BoD in improving financial performance of listed companies. Chinese government is striving to reform its underperforming corporate governance system, especially recently. On January 2004, China State Council issued a fundamental guidance — “Several Suggestions on Promoting Reform and Opening, and Stable Development of Capital Market” to lead the corporate governance reform. On March 2005, Premier Jiabao Wen emphasized the importance of the reform in his government report on the 10th National People’s Congress Conference.

However, there are few comprehensive studies to examine the monitoring effectiveness of BoD in this emerging market. There is little empirical evidence available for the authorities about the actual performance of the corporate governance system. Therefore, the findings of this study can help the authorities to reform the corporate governance system. The findings show that it is necessary to further improve board independence to change current insider-controlled boards and sub-committees of listed companies in China. In addition, cash compensation and equity ownership of Chinese independent directors are too low compared with their western counterparts. It is also necessary to award independent directors enough incentives to make them think like shareholders, and align their interests with those of companies.

Finally, as very little academic attention has been paid to BoD in Chinese companies, this study helps investors and trading partners (especially foreign ones) understand corporate governance and the investment environment in China, one of the largest economies and recipients of foreign direct investments. In particular, our results help understand the importance of corporate governance reform in China.

8.5 Limitations of the Study and Future Research Avenues

As far as the paper is concerned, it is an empirical based study. Conceptually, the domain and the importance of boards' strategic role in detail are not defined. As the very concepts of the firm change, it becomes almost imperative to define this role in practical term (Zahra and Pearce, 1989). Does it refer to the intensity of directors contribution to strategy? To the quality of this contribution? To its type (e.g., audits vs. actual formulation)? How does an expanded strategic role influence corporate performance?

These questions deserve attention in future studies.

Methodologically, this study only employs statistical or quantitative methods to examine the impacts of BoD on corporate performance. Other qualitative methodologies, such as interview, questionnaire, and field experimental methods, may be more efficiently to capture the impacts of BoD.

As far as data is concerned, this study only focuses its attention on China. One possible avenue for future study involves conducting comparative research, especially international research (e.g., Dalton and Kesner, 1987; Kriger, 1988), on BOD's effects. Industries are increasingly global in nature and their performance may depend on the characteristics of directors (Norburn, 1986). This means that future research should examine differences in international governance practices and their implications for industry and corporate performance. Additionally, it will require attention to companies in different stages of their life cycles, at different organizational size, and in different industry groupings. These efforts will help in determining the effect of contextual variables on board attributes and, ultimately, the board's contribution to corporate financial performance.

In addition, this paper mainly examines the effects of BoD on corporate performance from financial and accounting points. It does not consider the roles of directors from sociological perspective. Another possible avenue for future study is to examine the consequences of directors' own perceptions of their role(s) on corporate financial performance. Socioeconomists regard economic institutions and their components, including boards, to be social constructions (Fligstein and Freeland, 1995). Given the ongoing uncertainty among directors themselves of what their roles are and who their

constituencies are (e.g., Lorsch and MacIver, 1989; Mace, 1971; Boulton, 1978; Andrews, 1980), it would be interesting to explain variations in directors' conceptions of their roles.

The final potentially important implication of the paper is that simple measures of board effectiveness (e.g., the proportion of independent directors) employed in extant board-related research may not provide sufficiently accurate measures of board quality. The use of more sophisticated proxies based on detailed information about the characteristics and incentives of individual board members therefore offers a potentially fruitful avenue for future research.

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