A Comparison of Corporate Governance and Firm Performance in Developing (Malaysia) and Developed (Australia) Financial Markets

Kashif Rashid

Supervisor

Professor Sardar Islam

Co-Supervisor

Professor Ray Anderson

Centre for Strategic Economic Studies

Faculty of Business and Law

Victoria University

Melbourne

June 2008

TABLE OF CONTENTS

Page No.

Acknowledgements xi

Abstract xii

Chapter 1: Introduction 1

1.1 Introduction 1
1.2 Corporate Governance and the Value of a Firm 2
1.2.1 Corporate Governance 2
1.2.2 The Value of a Firm 3
1.3 The Relationship between Corporate Governance and the Value of a Firm (CGVF) 3
1.4 Complementarities of Corporate Governance Instruments and the Value of a Firm 4
1.5 Additional Factors Affecting the CGVF Relationships in Developing Markets 4
1.6 Limitations of the Existing Literature and Motivation 5
1.7 Aims of the Study 6
1.8 Conceptual Framework 7
1.9 Methodology and Empirical Framework for the Study 7
1.9.1 Methodology 7
1.9.2 Empirical Framework 8
1.9.3 Econometric Analysis 9
1.10 Contribution and Significance of the Study 9
1.11 Structure of the Thesis 11

Chapter 2: Corporate Governance and the Value of a Firm: The Need for a New Model 13

2.1 Introduction 13
2.2 Corporate Governance: Definitions, Principles and Need 14
2.2.1 OECD Principles for Corporate Governance 14
2.2.2 Economic Theory and Need for Corporate Governance 15
2.3 The Value of a Firm 15
2.3.1 Market to Book Value Ratio 16
2.3.2 Value Ratio 16

2.3.3 Tobin's Q 16
2.3.4 Price Earning Ratio 17
2.3.5 Net Present Value 17
2.3.6 Internal Rate of Return 17
2.4 Additional Factors Affecting the Value of a Firm in the Developing Financial Markets . 17
2.4.1 Tobin's Q 17
2.4.2 Net Present Value and Internal Rate of Return 18
2.5 Characteristics of Developed and Developing Financial Markets and the Role of Corporate Governance Instruments in Affecting the Value of Firm 18
2.5.1 Shareholders Votes 19
2.5.2 Role of Auditor 20
2.5.3 Role of Board of Directors 20
2.5.4 Role of Chief Executive Officer 21
2.5.5 Role of Board Size 22
2.5.6 Role of CEO Duality 23
2.5.7 Role of Manager 23
2.5.8 Role of Efficiency and Liquidity in the Market 24
2.5.9 Financial Disclosure and Infrastructure in the Market 25
2.5.10 Corporate Social Responsibility of a Firm 25
2.5.11 Complementarities of Corporate Governance Instruments in Developing and Developed Financial Markets 26
2.6 Role of Additional Factors Affecting the CGVF Relationships in a Developing Financial Market 28
2.6.1 Information Asymmetry 28
2.6.2 Agency Cost 29
2.6.3 Role of Banks in Affecting the Value of a Firm in Developing Financial Markets 30
2.7 The Relationship between Corporate Governance and Corporate Finance (Operational, Financial and Capital Structure) 31
2.7.1 Operational and Financial Structure 31
2.7.2 Capital Structure and Theories of Capital Structure 32
2.8 Management and Corporate Governance 32
2.9 Control Variables and Corporate Governance 33
2.10 Existing Literature about the CGVF Relationships 34
2.11 Limitations of the Existing Studies 37
2.12 Conclusion 38

Chapter 3: A New Conceptual Framework: Hypotheses and Model Development 39

3.1 Introduction 39
3.2 Institutional and Theoretical Perspectives in Developed and Developing Financial Markets 40
3.2.1 General Characteristics 40
3.2.2 Management Theories 40
3.3 A New Conceptual Framework 41
3.4 Corporate Governance Models for Developed and Developing Financial Markets 43
3.4.1 Model for the Developed Financial Market 44
3.4.2 Model for the Developing Financial Market 44
3.4.3 Model for the Cross-market Analysis 45
3.5 Hypotheses Development 46
3.5.1 Summary of Hypotheses 46
3.5.2 Detailed Specification of Hypotheses 48
3.6 Social Value of a Firm 59
3.7 Financial Aspects and the Valuation of a Firm 60
3.8 Conclusion 60

Chapter 4: Methodology and Econometric Framework 62

4.1 Introduction 62
4.2 Measurement, Conceptualisation and Operationalisation of the Variables 62
4.2.1 Gearing Ratio 64
4.2.2 Board Size 66
4.2.3 Concentrated Ownership 67
4.2.4 Tobin's Q 67
4.2.5 CEO Duality 68
4.2.6 Rule of Law 68
4.2.7 Return on Total Assets 69
4.2.8 Price to Book Value Ratio 69
4.2.9 Market Capitalisation 70
4.3 Econometric Testing 70
4.3.1 Diagnostics Statistics 77
4.4 Other Econometric and Statistical Tests 80

4.4.1 Factor Analysis 80
4.4.2 Incremental Regressions 81
4.4.3 Endogeneity Tests 81
4.4.4 Test for Complementarities of Corporate Governance Instruments 82
4.4.5 Descriptive Statistics 82
4.5 Data Collection Methods 84
4.5.1 Sampling 84
4.5.2 Types of Data Collection 84
4.5.3 Panel Data 85
4.6 Policy Formulation for Developing and Developed Financial Markets 85
4.7 Conclusion 86

Chapter 5: Econometric Results and Discussion 87

5.1 Introduction 87
5.2 Descriptive Statistics for Developing and Developed Financial Markets 87
5.3 Factor Analysis of the Variables in CGVF Models for Developing and Developed Financial Markets 91
5.4 Multiple Regression Analyses for CGVF Models for the Developed and Developing Financial Markets 92
5.5 Econometric Model for the Developed Financial Market (Australia) 93
5.5.1 Autocorrelation 93
5.5.2 The Variance Inflation and Tolerance Factors 95
5.5.3 Overall Statistics 96
5.5.4 Price to Book Value Ratio in the Developed Financial Market 96
5.5.5 Overall Statistics 97
5.5.6 CEO Duality in the Developed Financial Market 97
5.5.7 Board Size in the Developed Financial Market 97
5.5.8 Gearing in the Developed Financial Market 98
5.5.9 Market Capitalisation in the Developed Financial Market 98
5.5.10 Price to Book Value Ratio in the Developed Financial Market 98
5.6 Econometric Model for the Developing Financial Market (Malaysia) 99
5.6.1 Variance Inflation and Tolerance Factors 99
5.6.2 Overall Statistics 100
5.6.3 Majority Shareholders in the Developing Financial Market 101
5.6.4 CEO Duality in the Developing Financial Market 101
5.6.5 Board Size in the Developing Financial Market 101

5.6.6 Price to Book Value Ratio in the Developing Financial Market 101
5.6.7 Return on Total Assets in the Developing Financial Market 102
5.6.8 Market Capitalisation in the Developing Financial Market 102
5.7 Econometric Model for the Cross-market Analysis 102
5.7.1 Variance Inflation and Tolerance Factors 102
5.7.2 Overall Statistics 103
5.7.3 External Corporate Governance Mechanism in the Cross-market Analysis 104
5.7.4 CEO Duality in the Cross-market Analysis 104
5.7.5 Board Size in the Cross-market Analysis 104
5.7.6 Gearing in the Cross-market Analysis 105
5.7.7 Price to Book Value Ratio in the Cross-market Analysis 105
5.7.8 Return on Total Assets in the Cross-market Analysis 105
5.8 Incremental Regression for Developed, Developing and Cross-market Analysis 105
5.9 Complementarities in Corporate Governance Instruments in Affecting the Value of a Firm in Developing and Developed Financial Markets 106
5.10 Complementarities in Corporate Governance Instruments in Affecting the Value of a Firm in the Cross-market Analysis 107
5.11 Social Value of a Firm in the Developing Market 110
5.12 Robustness Tests for the Models of the CGVF in the Developed and Developing Financial Markets 111
5.13 Nature of the Relationship between CGVF in Developing and Developed Markets 113
5.14 Conclusion 113

Chapter 6: Implications of the Results: Corporate Governance and the Value of a Firm in Developing and Developed Financial Markets 115

6.1 Introduction 115
6.2 Implications of Results on the CGVF Relationship in the Developed Financial Market 117
6.2.1 Result of CEO Duality 118
6.2.2 Result of Board Size 118
6.2.3 Result of Gearing 120
6.2.4 Result of Market Capitalisation 122
6.2.5 Result of Price to Book Value Ratio 123
6.3 Implications of Results on the CGVF Relationship in the Developing Financial Market 124
6.3.1 Result of Majority Shareholders 124

6.3.2 Result of CEO Duality 126
6.3.3 Result of Board Size 127
6.3.4 Result of Price to Book Value Ratio 128
6.3.5 Result of Return on Total Assets 128
6.3.6 Result of Market Capitalisation 128
6.4 Implications of Results on the CGVF Relationship in the Cross-market Analysis 129
6.4.1 Result of External Corporate Governance Mechanism 130
6.4.2 Result of CEO Duality 131
6.4.3 Result of Board Size 132
6.4.4 Result of Gearing 132
6.4.5 Corporate Governance Provisions 134
6.4.6 Result of Price to Book Value Ratio 136
6.4.7 Result of Return on Total Assets 137
6.5 Implications of the Results of Incremental Regression in Affecting the Value of a Firm in Developing and Developed Financial Markets 137
6.6 Implications of the Results of Complementarities of Corporate Governance Instruments 138
6.6.1 Complementarities in the Developed Market 138
6.6.2 Complementarities in the Developing Market 139
6.7 Implications of the Results of Complementarities in the Cross-market Analysis 140
6.8 Corporate Governance and Social Value of a Firm (CGSVF) in the Developing Market 143
6.9 Summary and Implications of Results from the Management Perspective in the Developed Market (Australia) 144
6.10 Summary and Implications of Results from the Management Perspective in the Developing Market (Malaysia) 145
6.11 Summary and Implications of Results from the Management Perspective in Cross-market Analysis 145
6.12 Conclusion 148

Chapter 7: Summary, Findings and Conclusions 149

7.1 Introduction 149
7.2 Corporate Governance, the Value of a Firm and the Instruments/Variables in Developed and Developing Financial Markets 149
7.2.1 Role of Independent Auditor 150
7.2.2 Board Size 150

7.2.3 Role of CEO 151
7.2.4 Role of Managers 151
7.2.5 Social Value of a Firm 151
7.2.6 CEO Duality 151
7.2.7 Role of Information Asymmetry 152
7.2.8 Corporate Governance in the Developing Market 152
7.3 Complementarities of CGVF in Developing and Developed Markets 152
7.4 Differences in the CGVF Relationships in Developing and Developed Financial Markets 153
7.5 Existing Literature about CGVF in Developing and Developed Financial Markets 153
7.6 Hypotheses about the Relationship of CGVF in Developing and Developed Markets 154
7.7 Methodology of the Current Study 156
7.8 Results and Implications of the CGVF Models for Developing and Developed Financial Markets 156
7.8.1 Results of Descriptive Statistics 156
7.8.2 Results and Implications for the Developed Market 157
7.8.3 Results and Implications for the Developing Market 158
7.8.4 Results and Implications for the Cross-market Analysis 159
7.9 Results and the Process by which the Corporate Governance Instruments Affect the Value of a Firm 162
7.10 Policy Implications for Developing and Developed Countries 164
7.11 Contribution to the Literature 165
7.12 Recommendations for Future Research 165
7.13 Conclusion 167

References 169

Appendixes 190

Appendix 1 Variance Inflation and Tolerance Factor Tests for Developed Market (Australia) 190
Appendix 2 Variance Inflation and Tolerance Factor Tests for Developing Market (Malaysia) 193
Appendix 3 Variance Inflation and Tolerance Factor Tests for Cross-market Analysis 196
Appendix 4 Incremental Tests for Developed Market (Australia) 199
Appendix 5 Incremental Tests for Developing Market (Malaysia) 205

Appendix 6 Incremental Tests for Cross-market Analysis 211
Appendix 7 Tests of Best Fit for Developed and Developing Markets 217
Appendix 8 Original Model for the Developed Market (Australia) 219
Appendix 9 Results for Factor Analysis 219
Appendix 10 Regression Results for Developed Market (Australia) 222
Appendix 11 Regression Results for Developing Market (Malaysia) 223
Appendix 12 Regression Results for Cross-market Analysis 224
Appendix 13 Australian Model: Test for the Complementarities of Internal Corporate Governance Mechanism (Remove Duality) 225
Appendix 14 Australian Model: Test for the Complementarities of Internal Corporate Governance Mechanism (Remove Size) 226
Appendix 15 Malaysian Model: Test for the Complementarities of Internal Corporate Governance Mechanism (Remove Duality) 227
Appendix 16 Malaysian Model: Test for the Complementarities of Internal Corporate Governance Mechanism (Remove Size) 228
Appendix 17 Cross-market Analysis: Test for the Complementarities of Internal Corporate Governance Mechanism (Remove Duality) 229
Appendix 18 Cross-market Analysis: Test for the Complementarities of Internal Corporate Governance Mechanism (Remove Size) 230
Appendix 19 Cross-market Analysis: Test for the Complementarities of Internal and External Corporate Governance Mechanism (Remove External Corporate Governance Mechanism) 231
Appendix 20 Cross-market Analysis: Tests for the Complementarities of Internal and External Corporate Governance Mechanism (Remove Internal Corporate Governance Mechanism) 232
Appendix 21 Data for the Developing and Developed Markets 233

LIST OF TABLES AND FIGURES

Figure 3.1 Conceptual Framework: CGVF Relationships, Developing and Developed Markets 42
Table 4.1 Variables Used for the Study of a Developing Market (Malaysia) 64
Table 4.2 Variables Used for the Study of a Developed Market (Australia) 65
Table 4.3 Variables Used for the study of Cross market Analysis 66
Table 5.1 Descriptive Statistics for the Developing Market (Malaysia) 88
Table 5.2 Descriptive Statistics for the Developed Market (Australia) 88
Table 5.3 Factor Analysis: Results about the Highly Correlated Variables in all the Models 92
Table 5.4 Results of Three Main Models: Developed Market, Developing Market and Cross-market Analysis 94
Table 5.5 Values of Tolerance and Variance Inflation Factor for the Developed Market (Australia) 95
Table 5.6 Values of Tolerance and Variance Inflation Factor for the Developing Market (Malaysia) 99
Table 5.7 Values of Tolerance and Variance Inflation Factor for Developed and Developing Markets 103
Table 5.8 Results of Incremental Regression Removing Price to Book Value Ratio 106
Table 5.9 Effects on Board Size after the Removal of CEO Duality 107
Table 5.10 Effect on CEO Duality after the Removal of Board Size 108
Table 5.11 Effects on the Model after the Removal of Internal and External Corporate Governance Variables 109
Table 5.12 Effects of Social Value on the Model of the Developing Market 111
Table 5.13 Endogeneity Tests for Developing (Malaysia) and Developed (Australia) Models 112
Table 6.1 Results of Hypotheses for Developed Market (Australia) and Consistency with the Literature 117
Table 6.2 Results of Hypotheses for Developing Market (Malaysia) and Consistency with the Literature 125
Table 6.3 Results of Hypotheses for Developing (Malaysia) and Developed (Australia) Markets and Consistency with the Literature 129
Table 6.4 Summary of Results of Complementarities of Corporate Governance Instruments in all Three Models 146

DECLARATION

I, Kashif Rashid, declare that the PhD thesis entitled *A Comparison of Corporate Governance and Firm Performance in Developing (Malaysia) and Developed (Australia) Financial Markets* is no more than 100,000 words in length, exclusive of tables, figures, appendices, references and footnotes. This thesis contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma. Except where otherwise indicated, this thesis is my own work.

Signature

17-3-08

Date

ACKNOWLEDGEMENTS

I am thankful to God for his blessings in finishing this degree. The credit of the completion must go to Professor Sardar Islam and Professor Ray Anderson (my supervisors), and Professor Peter Sheehan (Director CSES) for their support and guidance throughout this journey of completing a PhD.

In addition, I am indebted to my family members: Abdur Rashid, Samina Rashid, Abdul Hafiz, Sabahat Rashid, Asif Rashid and Mushab Rashid for their incredible moral and financial support during my PhD program. I am also thankful to Dr Hayat Khan, Dr Ahmed Abdullahi and Ms Margarita Kumnick for their valuable comments and support in finishing this project.

ABSTRACT

Issues and Significance

It is widely believed that good corporate governance is an important factor in improving the value of a firm in both developing and developed financial markets. However, the relationship between corporate governance and the value of a firm (the CGVF relationship) differs in developing and developed financial markets due to *disparate* corporate governance *structures* in these markets resulting from the *dissimilar* social, economic and regulatory conditions in these countries. There is a need to understand the differences which affect the value of a firm for academic investigations, financial and management practices and public regulation of markets and corporations.

Existing Literature and Limitations

The existing literature on how good corporate governance contributes to improving the value of a firm is not well developed and has several limitations. No single research thus far, has undertaken a comprehensive study of the differences in the relationship between the level of corporate governance sophistication of the firm and its contribution to firm value. In the context of developing markets the relationships between corporate governance and the value of a firm are not defined properly and these relationships are not adequately tested by incorporating the relevant factors affecting them. Furthermore, comparative analyses of the relevance of different management theories (such as agency theory, stewardship theory, etc.) in *shedding* light on the nature and process of the CGVF relationships in developing and developed markets have not been reported in literature. Therefore, there is a need to redefine and properly *analyse* CGVF relationships by incorporating the factors relevant for a firm operating in developing and developed financial markets.

Objectives of the Study

To help overcome the limitations of the existing literature, this study develops *separate* models for the CGVF relationships for developed and developing markets keeping in mind the *differences* between these markets; defines the concept of corporate governance and the value of a firm suitable for developing and developed

financial markets; highlights the differences in the process by which corporate governance affects the value of a firm in developing and developed financial markets; and states the implications of different management theories in explaining the differences in CGVF relationships in these markets.

Methodology and Data

Two typical financial markets, Australia (developed) and Malaysia (developing) are selected for the present study. The panel data is collected from 2000 to 2003 for Tobin's Q, price to book value ratio, market capitalisation, gearing ratio, return on total assets, shareholder's concentration (agency cost), CEO duality, board size, and judicial and regulatory authority efficiency.

Multifactor corporate governance and the value of a firm (CGVF) models relevant for developed and developing markets are constructed and econometric analyses are performed to test the relationship between corporate governance instruments and the value of a firm. Incremental tests are also carried out to see the importance of individual variables in the model for developing and developed financial markets. In addition, tests for the complementarities of corporate governance instruments in affecting the value of a firm are also performed.

Results and Implications of CGVF Relationships

The results of the corporate governance model for developing, developed and cross-market analysis suggest a *positive* relationship between corporate governance and the value of a firm. The results on the relationship between the value of a firm and corporate governance mechanism in the developed market suggest a negative relationship between debt and the value of a firm. The result confirms agency theory, as managers do not handle the debt properly. Also, there is a negative relationship between the value of a firm and a larger board, further confirming agency theory. On the contrary, control variables such as market capitalisation and the price to book value ratio have a positive relationship with the value of a firm in this market. The managers are stewards in this case and are inclined to support the interests of the shareholders thereby supporting *stewardship* theory.

Similarly, the results on the relationship between corporate governance and the value of a firm in the developing financial market suggest a negative relationship between shareholder concentration and the value of a firm. The results of this model confirm agency theory where the majority shareholders, as agents, are involved in empire building. Similarly, control variables such as return on total assets, market capitalisation and price to book value ratio have a positive relationship with the value of a firm in the developing financial market. The results support stewardship theory. Finally, the bigger board size has a positive relationship with the value of a firm in the developing financial market.

The results on the cross-market analysis show that higher debt and inefficient regulatory authority have a negative relationship with the value of a firm. There is an agency cost involved in handling debt. Furthermore, the inefficient regulatory authority deteriorates the value of a firm supporting agency theory. On the contrary, control variables such as return on total assets and price to book value ratio have a positive relationship with the value of a firm in both developed and developing financial markets, supporting stewardship theory.

The incremental regression shows that price to book value ratio is the most significant factor in improving the value of a firm in all the CGVF models. The tests of complementarities in the cross-market analysis suggest that board size improves the marginal benefit of CEO duality. Similarly, the regulatory regime encourages an independent CEO to improve the value of a firm. Finally, the value of a firm in a developing market is a broad concept and also incorporates the social value in addition to the monetary value of a firm.

The difference in the results for developing and developed markets is due to the different *social, regulatory* and *corporate governance systems* in their financial markets. Due to these variations in the selected financial markets, the process by which the value of a firm is affected is also different.

Conclusion

In light of the above findings, the study has highlighted the role of corporate governance in *effective utilisation* of assets to improve the value of a firm. The role of

the board and regulatory authority is important in *disciplining* the CEO and majority shareholders in the financial markets. A bigger board creates value for shareholders in developing financial markets. On the contrary, a smaller board and less debt create value in developed financial markets.

The current study makes an *original contribution* by suggesting that there is a positive relationship between corporate governance and the value of a firm in both developing and developed markets, although, the nature of this relationship *differs* due to *differences* in the characteristics of developing and developed markets. The *divergence* in the *social, economic* and *organisational aspects* of these markets makes the relevance of various organisational and management theories in explaining the CGVF relationships different as well. These *insights* in explaining the CGVF relationships are useful for *academic* understanding and business and public *policy* formulations.

Chapter 1
Introduction

1.1 Introduction

The relationship between corporate governance and the value of a firm (CGVF) is important in formulating efficient corporate management and public regulatory policies. According to Black (2001), Klapper and Love (2003), Gompers, Ishii and Metric (2003) and Beiner and Schmid (2005), corporate governance plays an important role in improving the performance of a firm and there is a direct relationship between the two in both developing and developed financial markets. However, there are *differences* in the *nature, direction, magnitude* and processes of operation of the relationship between developed and developing financial markets due to differences in their economic, social, regulatory framework and market behaviour (Heinrich, 2002; Ahunwan, 2003). Although, it is important especially for developing markets to incorporate these differences into the analysis of CGVF relationship for an *appropriate* understanding of the role of corporate governance in influencing corporate performance and formulating regulatory framework, these differences have not been systematically discussed in the existing literature.

To fill this gap, this study will analyse and empirically *investigate* the nature of these *differences* in the relationship between corporate governance and a firm's performance in developed and developing financial markets. For this purpose, two financial markets of Malaysia (developing) and Australia (developed) are selected in this study for the comparative analysis.

The chapter is structured as follows. Sections 1.2 to 1.5 present the discussion on corporate governance and the value of a firm in developing and developed financial markets. Sections 1.6 and 1.7 discuss the limitations of existing literature and the aims of this study. Section 1.8 presents the conceptual framework. Section 1.9 presents the methodology and empirical framework. Section 1.10 explains contribution to the knowledge and significance of the research undertaken and Section 1.11 describes the structure of thesis.

1.2 Corporate Governance and the Value of a Firm

1.2.1 Corporate Governance

Researchers have defined corporate governance in a variety of ways and the most widely cited definitions follow.

According to Cadbury (1992), corporate governance is the *mechanism* used to discipline organisations. Morin and Jarrell (2001) argue that corporate governance is a framework that controls and safeguards the interest of the relevant players in the market. The players of the corporate governance mechanism include managers, employees, customers, shareholders, executive management, suppliers and the board of directors.

The literature on corporate governance in developing and developed markets suggest that the roles of a regulatory authority, board, management, suppliers, customers and creditors are important in improving the value of a firm. Good corporate governance is focused on the protection of the rights of shareholders and plays an important role in the development of capital markets by protecting their interests (Kahan and Rock, 2003).

Corporate governance has potential macro implications as was made evident in the economies of Thailand, Indonesia, Malaysia and Phillipines. These countries experienced extreme economic shocks during the Asian economic crisis because of the weakness of their corporate governance mechanisms. Similarly, corporate governance has important implications on the micro level as well, where poor corporate governance can result in the fall of corporations, such as the two big giants, Enron and Worldcom recently.

The role of different instruments in implementing corporate governance is important as highlighted by Bhagat and Black (1999, 2002). These instruments include board of directors, independent directors, board size, CEO, managers, efficient market, political regime, government, regulatory authority and judiciary. The independent directors, CEO, board of directors and managers can improve the value a firm by

performance of their fiduciaries. The role of the regulatory authority, government and judiciary is important to improve the value of a firm as these authorities can protect the rights of the shareholders and implement corporate governance in developing and developed financial markets.

1.2.2 The Value of a Firm

The value of a firm can be defined as the amount of *utility/benefits* derived from the shares of a firm by the shareholders. Some of the important measures to value a firm in the existing literature are as follows.

Value Ratio

Black (2001) explains that the value of a firm can be measured by using the value ratio. The ratio can be calculated by dividing the actual market capitalisation by potential market capitalisation. The actual market capitalisation is based on the stock prices. In contrast, potential market capitalisation is based on actual resources of the firm.

Tobin's Q

Tobin's Q is defined as the ratio of the market value of assets (equity and debt) to the replacement value of assets. Tobin's Q is also used to value a firm in the financial markets as Sarkar and Sarkar (2000) and Bhagat and Jefferis (2002) used Tobin's Q in their studies to value a firm.

1.3 The Relationship between Corporate Governance and the Value of a Firm (CGVF)

Corporate governance has a positive relationship with the value of a firm in developing and developed financial markets. The relationship can be expressed as follows.

Value of a firm = f (Control variables + Internal corporate governance variables + External corporate governance variables + Error Term).

The model shows that the internal, external and control variables have a positive relationship with the value of a firm. The process by which the value of a firm is affected in developed and developing markets is different due to differences in the social, political and economic conditions in these markets.

1.4 Complementarities of Corporate Governance Instruments and the Value of a Firm

The management of a firm can also use corporate governance instruments in *combination* rather than in *isolation* and further improve the value of a firm. The Edgeworth combinations can be used to decrease the opportunity cost of a single instrument by effectively using it in conjunction with the other instruments. The Edgeworth combination differs in both developed and developing markets.

The Edgeworth combinations in developing markets are weak regulatory authority, illiquid market, high amount of leverage, independent salary of executive management, inefficient market and concentrated shareholdings. While, the Edgeworth complements in developed financial markets are effective regulatory authority, less leveraged firms, linked salary of the management to their performance, efficient market and dispersed shareholding. Hence, the *process* by which the combination of corporate governance instruments affects the value of a firm in the developing market is *different* from the developed financial market (Heinrich, 1999).

1.5 Additional Factors Affecting the CGVF Relationships in Developing Markets

As highlighted by Ahunwan (2003), corporate governance and the value of a firm is different in developing and developed financial markets due to *additional* factors/risks associated with a firm operating in developing market. These risks include high inflation, political instability, high leverage, unstable government policies, inconsistent accounting standards and a weak institutional environment. These factors affect internal and external corporate governance mechanisms in the developing

financial market, which harms the value of a firm (Pereiro, 2002).

The *agency cost* is also higher in developing market compared to a developed market. The types of agency costs in developing and developed markets include bonding, residual and monitoring costs. In addition to these costs, the firms of developing markets cannot make optimal financing (dividend and investment) policies, resulting in a disadvantage to the shareholders (World Bank, 2003).

These factors are not considered while testing the relationship between corporate governance and the value of a firm in developing financial markets. Corporate governance in the current study will be analysed by taking into account the factors important for the firms of developing and developed financial markets.

1.6 Limitations of the Existing Literature and Motivation

The major limitation of the existing literature is that a comparative analysis of CGVF relationships in developing and developed markets has not been undertaken to account for the differences in the process by which the value of a firm is affected in these markets.

According to Sarkar and Sarkar (2000), the definition of corporate governance and the value of a firm in the existing literature originated from developed markets is not suitable for developing market. The nature of the process by which the value of a firm is affected in developed and developing financial markets is also different. There is a need to redefine corporate governance and the value of a firm by taking into account the differences in the process by which the value of a firm is affected in both these markets.

Similarly, Nam and Nam (2004) argue that the relationship between corporate governance and the value of a firm developed in existing literature is not relevant to developing markets as well. As such, there is a need to test the relationship between the value of a firm and corporate governance instruments in developing markets. Furthermore, the *appropriate* mix of corporate governance instruments is *missing* in the literature of developing and developed markets, which shows that agency cost in

these markets is not handled effectively and value is not created for the shareholders (Heinrich, 2002).

Khatri, Leruth and Piesse (2002) pointed out that the sample size used for the Malaysian study in the former researchers' working paper was small and lacked robustness. There is a need to re-test the CGVF relationship in a developing financial market.

The above *limitations* of the existing literature of CGVF relationships *justify* another study in this area so that accurate definitions of CGVF can be formulated and correct CGVF relationships for developing markets can be specified. Consequently, this study is specifically aimed at addressing some of these limitations.

1.7 Aims of the Study

The proposed study aims to perform the following.

1) To *investigate* and *compare comprehensively* the role of corporate governance in influencing the performance of a firm in developing and developed financial markets, both conceptually and empirically.

2) To *develop* new multifactor (CGVF) models, which explain the role of corporate governance in affecting the firm performance as represented by the value of a firm in developing and developed financial markets.

3) To develop concepts and measurements of corporate governance and values appropriate for developing and developed financial markets and also to *estimate* and analyse the new CGVF relationships in the model of these markets.

4) To discuss the relevance of different *management* and *financial theories* in explaining the nature and operation of the CGVF relationships in developed and developing markets.

5) To *recommend* corporate governance and financial policies on the basis of

econometric results as financial policies can play a prominent role in the development of the financial sector in developing and developed financial markets.

1.8 Conceptual Framework

The hypotheses formulated in this study are based on the important factors affecting the relationship between corporate governance and the value of a firm in developing and developed financial markets. The corporate governance models based on the internal and external corporate governance variables and control variables will test these hypotheses.

The independent variables in the CGVF models are corporate governance variables, which include the internal corporate governance variables, external corporate governance variables and control variables. The internal corporate governance variables in this study are Chairman and Chief Executive Officer duality, board size, role of debt and role of majority shareholders. The external corporate governance variables are judicial and regulatory authority efficiency. Control variables such as financial variables are also used as independent variables in this study. The dependent variable in the current study is the proxy for Tobin's Q.

1.9 Methodology and Empirical Framework for the Study

The methodology and empirical framework to be used in the study are as follows.

1.9.1 Methodology

The research will be carried out through the construction of a positive empirical model. Data will be collected from different web sites and financial reports of firms. Sixty listed companies from each market will be selected on a random basis covering all sectors of the economy.

The sample data will be collected for the period between 2000 and 2003. The data concerning internal and external corporate governance mechanisms will be gathered

from different sources such as web sites of the companies, stock exchanges and the World Bank web site.

The data in the current study about corporate governance and the value of a firm consists of external and internal corporate governance variables and control variables. The external corporate governance mechanisms that are used for the study are the indices, of judicial and regulatory authority efficiency, while the internal corporate governance mechanisms are the roles of majority shareholders, CEO duality, debt and board size. In addition, the control variables in this study consist of price to book value ratio, market capitalisation and return on total assets.

1.9.2 Empirical Framework

The empirical framework used in this study is similar to the framework used in studies conducted by Kyereboah-Coleman and Biekpe (2005) and Chen, Elder and Hsieh (2005), as it uses internal corporate governance variables, external corporate governance variables and control variables to test the relationship between these variables and the value of a firm.

As discussed in Section 1.9.1, there are internal corporate governance instruments used in this study. These are board size, Chairman/Chief Executive Officer duality, role of debt and the role of majority shareholders. The external corporate governance mechanisms are judicial and regulatory authority efficiency. The control variables include price to book value ratio, market capitalisation and return on total assets.

The above-mentioned internal and external corporate governance mechanisms are important in affecting the value of a firm in developing and developed financial markets and are measured by using the criteria found in the literature, including Black, Jang and Kim (2003), Gompers, Ishii and Metric (2003) and Beiner and Schmid (2005). The external corporate governance mechanism captures the number of procedures involved and cost incurred in settlement of a dispute in court. On the contrary, internal corporate governance mechanism such as CEO duality is measured by using a dummy variable. The value of the dummy variable is 1 if an individual is serving as CEO and Chairman and is 0 otherwise. Furthermore, board size is

measured by counting the number of directors in a board, role of debt by looking at the gearing ratio and agency cost by measuring the highest shareholding in a firm.

Econometric tests were performed to check whether the instruments are substitutes or complements, and to test the relationship of these instruments with the value of a firm. Finally, incremental tests were also conducted to analyse the importance of individual variables in all the models of this study.

1.9.3 Econometric Analysis

The relationship between corporate governance and the value of a firm in this study was tested by a multifactor market model. Different statistical and econometric tests were used to test the relationship between the value of a firm, internal corporate governance mechanisms, external corporate governance mechanism and control variables. The data used for these tests was a combination of time series and cross-sectional observations and is called panel data.

These tests were performed to investigate the validity of the alternative hypothesis. The alternative hypothesis in this study is about the relationship of corporate governance and the value of a firm. The econometric tests used to accept and reject the alternative hypothesis include t and f statistics. The value of p (power of test) was also used to accept or reject the alternative hypothesis which established the relationship between the corporate governance and the value of a firm.

Furthermore, tests of data about heteroscedasticity, multicollinearity and autocorrelation were also carried out to make the results of the study more robust. These tests were imperative as the success of the model was dependent on the accuracy of the derived results.

1.10 Contribution and Significance of the Study

The proposed study makes an original contribution to the literature since it is the first comprehensive investigation into the comparative roles of corporate governance in affecting the performance of a firm in both developing and developed financial

markets. Past researchers have shown that corporate governance is an important factor affecting the value/performance of a firm in developed and developing financial markets separately. This is the only study, which explicitly considers the differences in the social, economic and institutional variations between developed and developing markets. Also, the relevance of different management theories for explaining the differences in these CGVF relationships is considered.

This study is very useful in providing new *insights* into corporate governance and the performance of a firm. Furthermore hypotheses relevant to the factors affecting the value of a firm in developing and developed financial markets are developed. The study also reveals the role of various governance instruments in decreasing the agency cost in developing and developed financial markets. Finally, tests on the complements and substitutes of different corporate governance instruments are undertaken to analyse the role of instruments in creating value in combination rather than in isolation.

The *suitable* combination of instruments (Edgeworth complements), as suggested, results in improvement of the value of a firm. This combination leads to lowering the agency cost in firms of developing and developed financial markets. The results of the hypotheses related to the individual variables and complementarities in corporate governance instruments will allow us to understand the process by which the value of a firm is affected when a single instrument is used and also when the instruments are used in combination. Furthermore, the importance of social value of a firm will be tested in developing market and value of a firm will be redefined by incorporating the social value of a firm.

This study has significant practical importance because its econometric results support the application of appropriate regulatory, financial and corporate governance policies. Finance is important for economic development, and sound financial management through good corporate governance can make a substantial contribution to economic development in these markets. The performance of a firm will be improved by using these relevant recommendations for the developing market, which previously was lacking in the existing literature.

1.11 Structure of the Thesis

The thesis comprises seven chapters. Chapters 1 and 2 provide the background to the study, definitions of corporate governance, the value of a firm and the relationship between the both. They also introduce the differences in relationships between the corporate governance in developing and developed markets. In addition, the role of agency cost, complementarities in developing and developed financial markets and the existence of a gap in the literature is also discussed.

Chapter 3 provides the conceptual framework, models for the study and hypotheses development. The corporate governance models and hypotheses are based on different corporate governance factors, which are important in affecting the value of a firm in both markets and are discussed in this chapter.

Chapter 4 explains the methodology of the study and includes a discussion of the variables used in the models for corporate governance and the value of a firm. The discussion also includes the measurement, conceptualisation and operationalisation of the variables. The econometric methods used for the study and econometric problems related to the data are also discussed. Finally, the data collection method is also described.

Chapter 5 consists of the results of descriptive analysis and hypotheses testing about the relationship between corporate governance and the value of a firm in developing and developed financial markets. The results are derived from the models of the corporate governance and used to establish either acceptance or rejection of the hypotheses. Similarly, the importance of individual corporate governance variables in affecting the value of a firm and the tests of complementarities of corporate governance instruments are also discussed.

Chapter 6 examines the results concerning the relationship of corporate governance variables and the value of a firm. In addition, the corporate governance results on the role of individual variables in affecting the value a firm and the role of combination of instrument in improving the value of a firm are discussed. The financial and corporate governance implications of the results are also given.

Finally, Chapter 7 presents the conclusion, limitations and possible extensions to the study.

Chapter 2
Corporate Governance and the Value of a Firm: The Need for a New Model

2.1 Introduction

Corporate governance is an important factor affecting the value of a firm. Corporate governance, the value of a firm and their *relationship* is different in developing and developed financial markets due to the *differences* in *social* and *economic* conditions, markets, institutions and regulatory frameworks between these two types of markets (Dallas, 2004). The complementarities among external and internal corporate governance instruments play an important role in affecting the value of a firm by decreasing the agency cost. This chapter provides a critical literature review about corporate governance and the value of a firm in developing and developed financial markets and the role of complementarities in affecting the value of a firm. The literature review also highlights the limitations of the existing literature and the need for further studies in this area. The main limitation of the existing literature is that no comprehensive study of the differences in the CGVF relationships between developed and developing markets has been carried out on the basis of the differences in economic, social, organisations and institutions and management principles. This is made evident from the literature review in this chapter.

This chapter is structured as follows. Section 2.2 deals with the discussion of corporate governance. Section 2.3 discusses the value of a firm. Section 2.4 presents the role of additional factors affecting the value of a firm in a developing market. Section 2.5 discusses the characteristics of developing and developed financial markets. Section 2.6 deals with the role of additional factors affecting the CGVF relationships in developing financial markets. Section 2.7 investigates the relationship of corporate governance with finance. Section 2.8 examines the relationship between management and corporate governance. Section 2.9 considers the control variables and corporate governance. Section 2.10 provides an overview of the existing literature on corporate governance and the value of a firm. Section 2.11 looks into the limitations of the existing literature. Finally, Section 2.12 concludes the chapter.

2.2 Corporate Governance: Definitions, Principles and Need

Different researchers define corporate governance in different ways. According to Morin and Jarrell (2001) corporate governance is a framework that controls and safeguards the interests of different players in the market. Players of the corporate governance mechanism include managers, employees, customers, stakeholders, CEO, shareholder, suppliers and the board of directors of a firm.

According to Mathiesen (2002), corporate governance is the mechanism used to safe guard the interests of the shareholders in the market. This value creation for the shareholders is achieved by providing incentives to the managers.

Cadbury (1992) suggested that corporate governance deals with the value creation of the shareholders by effectively utilising the assets of a firm. Finally, Monks and Minow (2001) defined corporate governance as the mechanism by which the board of directors improve the value of the shareholders by controlling the actions of managers, CEO and other stakeholders in a firm.

The definitions of corporate governance do not incorporate the important factors in the developing and the developed financial markets so there is a need to redefine the concept in these markets.

2.2.1 OECD Principles for Corporate Governance

The Organisation for Economic Cooperation and Development (OECD) principles for corporate governance (1999) emphasised achieving social and economic sustainability by creating ample job opportunities in the economy. Firms can improve the shareholders value and provide benefits to society by following the principles of corporate governance.

Furthermore, the disclosure of transparent financial information, maintaining occupational health and safety, and development of the social and economic culture in an organisation can also generate value for the shareholders. Due to weak corporate

law in the developing financial markets, the firms in these markets cannot follow OECD principles and create this value for the shareholders.

2.2.2 Economic Theory and Need for Corporate Governance

Economic theory suggests that a firm is a nexus of contracts among the different parties and that the need for a regulatory framework for corporate governance arises due to the presence of incomplete contracts in the financial markets. This need is intensified by other factors such as market failure and non-existence, externalities and under developed institutions, etc. Incomplete contracts among different parties in the organisation such as suppliers, managers, shareholders and other stakeholders affect the value of a firm in a negative manner. Effective and efficient contract law support the interest of shareholders by providing the means to negotiate contingencies in the contract (Aghion and Bolton, 1992; Nam and Nam, 2004).

The correct procedure of contracting among the different parties in a market can decrease the agency cost, consequently increasing the value to shareholders (Zingales, 1998). There is a greater need for complete contracts in developing markets because of the ineffectiveness of their corporate law.

2.3 The Value a Firm

The term value refers to the utility or the benefit derived from a good or an object. In economics or finance, the term value refers to the price for which a good or object can be exchanged (exchange value or market value).

There are different concepts of the value of a firm such as intrinsic value, social value and hedonic value. The social value can be different from the market value of an object due to market imperfections, external economies and diseconomies and market non-existence. In this thesis, we will mainly focus on the market value of a firm, although the concept of the social value of a firm will also be briefly discussed in Chapter 3.

A variety of methods widely used to value a firm in financial markets are discounted cash flow, adjusted present value, equity cash flow and weighted average cost of capital methods as suggested by Bishop et al. (2004) and Bose (2004).

The following measures are also used to value a firm in developing and developed markets.

2.3.1 Market to Book Value Ratio

Market to book value ratio is used to value a firm in the financial market. Market to book value ratio (MBVR) relates the market value of a firm to its book value. The variable is also regarded as a lifetime return by holding a stock. Higher market to book value shows that a firm is in a position to generate more returns with respect to the capital invested. In contrast, a lower market to book value shows that the company is unhealthy and will not be able to create value for the shareholders by generating higher returns as suggested by Peirson et al. (2000).

2.3.2 Value Ratio

Value ratio is an important measure in valuing a firm in developing financial markets. This is a relatively easy measure compared to the other measures used in the developing market. The value ratio can be calculated by dividing actual market capitalisation (based on stock prices) with potential market capitalisation (based on actual resources of a firm) (Black, 2001).

2.3.3 Tobin's Q

Tobin's Q is widely used to value a firm in both developing and developed financial markets. The variable shows the financial strength of the company and serves as a proxy for a company's performance in a financial market. Tobin's Q is defined as the ratio of market value of assets (equity and debt) to the replacement value of assets (Bhagat and Jefferis, 1994; Gompers, Ishii and Metric, 2003; Beiner and Schmid, 2005).

2.3.4 Price Earnings Ratio

Similar to previous valuation measures, the price-earnings ratio is also widely used to measure the value a firm in developing and developed financial markets. It can be calculated by dividing the current market price of a share by the earnings per share. The variable can be taken as company's future potential and represents the investment and dividend policy of a firm as suggested by Morin and Jarrell (2001) and Copeland, Weston and Shastri (2005).

2.3.5 Net Present Value

The net present value method can be used to value a project. In this method, the future cash flow is discounted at the rate of interest of the project. The present value of cash flow is subtracted from the residual value to get the final value of the project. A positive net present value results in acceptance of a project. On the contrary, negative net present value leads to the rejection of a project (Peirson et al., 2000).

2.3.6 Internal Rate of Return

The final measure discussed in this study to value a firm in the financial markets is internal rate of return. The internal rate of return is the discount rate that makes the present value of cash inflow equal to the present value of cash outflow (Peirson et al., 2000). The discount rate is affected by different factors in developing markets and results in incorrect evaluation of the firms of the developing market as argued by Pereiro (2002).

2.4 Additional Factors Affecting the Value of a Firm in the Developing Financial Markets

2.4.1 Tobin's Q

Debt is an important component in the Tobin's Q. Debt can be accurately valued in the developed market because the institutional debt is relatively low. However, institutional debt is higher in the firms of developing market making the formula

inapplicable to value these firms as explained by Sarkar and Sarkar (2000). This feature makes the formula only applicable for the developed markets.

2.4.2 Net Present Value and Internal Rate of Return

Similar to Tobin's Q, additional factors in the developing markets also affect the net present value and internal rate of return. The valuation techniques in developing markets are limited in accuracy due to the level of corruption, accounting standards, role of government, transaction costs and liquidity being different and making the valuation of a firm dissimilar in developing markets. The discount rate used to determine the net present value can be adjusted for additional macroeconomic factors to correctly value the firms of developing market as argued by Ahunwan (2003).

Furthermore, the real interest rate used in the formula for the internal rate of return in developing markets gives an incorrect method of assessing the value of a project, as inflation in these markets is almost three times higher than in developed markets. Incorporating the correct value of inflation in evaluating the value of a firm will result in sound investment decisions in developing markets as advocated by Pereiro (2002).

As there are different types of evaluation methods relevant to measure the value of a firm in developing and developed financial markets and there are limitations in these measures to value a firm in these markets, a relevant proxy to correctly value a firm in the developing and developed financial markets will be used.

2.5 Characteristics of Developed and Developing Financial Markets and the Role of Corporate Governance Instruments in Affecting the Value of a Firm

The developed financial markets follow the outsider system of corporate governance as the shareholdings are dispersed and capital allocation takes place in an efficient manner in these markets. The regulatory authorities are efficient in monitoring the firm, as a market for corporate control exists. Furthermore, managers in these markets have sufficient power to discipline the firm and can play an important role in affecting the decisions of board of directors. The goal of management in these markets is to create a short-term improvement in the value for the shareholders (Wei, 2003).

The shareholders' votes, board of directors and independent Chief Executive Officer (CEO) play an important role in improving the value of a firm in developed markets. The shareholders can discipline the management to improve the value of their shareholdings. Similarly, the board and CEO can also safeguard the interest of the shareholders by creating more value for them as argued by Bhagat and Jefferis (2002) and Gompers, Ishii and Metric (2003).

In contrast, shareholding is concentrated in developing financial markets and follows a hybrid system of corporate governance suggesting that the blockholders play an important role in monitoring the activities of a firm in these financial markets. Pyramidal and cross-shareholding, illiquid capital markets and ineffective regulatory authority are also features of these markets (Franks and Mayer, 1994; Allen and Gale, 2001). The regulatory and judicial framework in a developing market is ineffective in playing any role in improving the value of a firm. The agency cost among different players in the market is not handled properly and the firms in a developing market are not involved in value creation for the shareholders.

According to the Asian Development Bank (1997), Dallas (2004) and Nam and Nam (2004), various instruments are used in financial markets to improve corporate governance and the value of a firm. Economic and financial theory suggests that the instruments mentioned below affect the value of a firm in developing and developed financial markets. These instruments and their role are as follows.

2.5.1 Shareholders Votes

The shareholders vote plays an important role in improving the value of a firm and there is a positive relationship between the value of a firm and shareholders rights. Each shareholder has been delegated with a vote to play a role in the operations of a firm and can use their vote in removing and appointing the board of directors. They can make decisions about the compensation of employees in a firm and can also participate in financial decisions of a firm as argued by the World Bank (2003) and Dallas (2004).

The shareholders enjoy the right to represent themselves on the board. They are also allowed to gain financial information from the officials of a firm such as analysts, board of directors and employees. The easy access to public and private information by the shareholders can reduce the information asymmetry between the shareholders and managers and results in improvement in the value of a firm (Asian Development Bank, 1996).

Unfortunately, the role of majority shareholders is negative in affecting the value of a firm in the developing market, as they do not allow the minority shareholders to participate in the affairs of these firms. Due to weak corporate law and market imperfections, the minority shareholders are disadvantaged in the developing financial market compared to the developed financial market (Ahunwan, 2003; Nam and Nam, 2004).

2.5.2 Role of Auditor

The role of auditor is important in implementing corporate governance principles and improving the value of a firm. The principles of corporate governance suggest that auditors should work independently and perform their duties with professional care. In case of any financial manipulation, the auditors are held accountable for their actions as the availability of transparent financial information reduces the information asymmetry and improves the value of a firm (Bhagat and Jefferis, 2002).

However, in developing markets auditors do not improve the value of a firm. They manipulate the financial reports of the firms and serve the interests of the majority shareholders further disadvantaging the minority shareholders. The weak corporate law and different accounting standards also deteriorate the performance of the auditors and create financial instability in the developing market.

2.5.3 Role of Board of Directors

The board of directors can play an important role in improving corporate governance and the value of a firm (Hanrahan, Ramsay and Stapledon, 2001). The value of a firm is also improved when the board performs its fiduciary duties such as monitoring the

activities of management and selecting the staff for a firm. The board can also appoint and monitor the performance of an independent auditor to improve the value of a firm. The board of directors can resolve internal conflicts and decrease the agency cost in a firm. The members of a board should also be accountable to the shareholders for their decisions as argued by Vance (1983), Anderson and Anthony (1986), Asian Development Bank (1997), Nikomborirak (2001) and Tomasic, Pentony and Bottomley (2003).

The board consists of two types of directors; outsider (independent) and insider directors. The majority of directors in a board should be independent to make rational decisions and create value for the shareholders. The role of independent directors is important to improve the value of a firm as they can monitor the firm and can force the managers to take unbiased decisions. The independent directors can also play a role of a referee and implement the principles of corporate governance that protect the rights of shareholders (Bhagat and Jefferis, 2002; Tomasic, Pentony and Bottomley, 2003).

Similarly, internal directors are also important in safeguarding the interests of shareholders. They provide the shareholders with important financial information, which will decrease the information asymmetry between managers and shareholders as argued by Bhagat and Black (1999) and Bhagat and Jefferis (2002). The board size should be chosen with the optimal combination of inside and outside directors for the value creation of the investors.

The board of directors in the developing market are unlikely to improve the value of a firm, as the weak judiciary and regulatory authority in this market enables the directors to be involved in biased decision-making that serves the interests of the majority shareholders and the politicians providing a disadvantage to the firm (Asian Development Bank, 1997).

2.5.4 Role of Chief Executive Officer

The Chief Executive Officer (CEO) of an organisation can play an important role in creating the value for shareholders. The CEO can follow and incorporate governance

provisions in a firm to improve its value (Brian, 1997; Defond and Hung, 2004). In addition, the shareholders invest heavily in the firms having higher corporate governance provisions as these firms create value for them (Morin and Jarrell, 2001).

The decisions of the board about hiring and firing a CEO and their proper remuneration have an important bearing on the value of a firm as argued by Holmstrom and Milgrom (1994). The board usually terminates the services of an underperforming CEO who fails to create value for shareholders. The turnover of CEO is negatively associated with firm performance especially in developed markets because the shareholders loose confidence in these firms and stop making more investments.

It is the responsibility of the board to determine the salary of the CEO and give him proper remuneration for his efforts (Monks and Minow, 2001). The board can also align the interests of the CEO and the firm by linking the salary of a CEO with the performance of a firm. This action will motivate the CEO to perform well because his own financial interest is attached to the performance of the firm as suggested by Yermack (1996).

The tenure of a CEO is also an important determinant of the firm's performance. CEOs are hired on short-term contracts and are more concerned about the performance of the firm during their own tenure causing them to lay emphasis on short and medium-term goals. This tendency of the CEO limits the usefulness of stock price as a proxy for corporate performance (Bhagat and Jefferis, 2002). The management of a firm can overcome this problem by linking some incentives for the CEO with the long-term performance of the firm (Heinrich, 2002).

2.5.5 Role of Board Size

Board size plays an important role in affecting the value of a firm. The role of a board of directors is to discipline the CEO and the management of a firm so that the value of a firm can be improved. A larger board has a range of expertise to make better decisions for a firm as the CEO cannot dominate a bigger board because the collective

strength of its members is higher and can resist the irrational decisions of a CEO as suggested by Pfeffer (1972) and Zahra and Pearce (1989).

On the other hand, large boards affect the value of a firm in a negative fashion as there is an agency cost among the members of a bigger board. Similarly, small boards are more efficient in decision-making because there is less agency cost among the board members as highlighted by Yermack (1996).

2.5.6 Role of CEO Duality

Similar to the other corporate governance instruments, CEO duality plays an important role in affecting the value of a firm. A single person holding both the Chairman and CEO role improves the value of a firm as the agency cost between the two is eliminated (Alexander, Fennell and Halpern, 1993). On the negative side, CEO duality lead to worse performance as the board cannot remove an underperforming CEO and can create an agency cost if the CEO pursues his own interest at the cost of the shareholders (White and Ingrassia, 1992).

2.5.7 Role of Manager

Managers can play an important role in improving the value of a firm. They can reduce the agency cost in a firm by decreasing the information asymmetry, which results in improving the value of a firm (Monks and Minow, 2001). Managers in the developed market create agency cost by under and over investment of the free cash flow. Shareholders are disadvantaged in this case as they pay more residual, bonding and monitoring costs in these firms.

Managers in developing financial markets generally play a negative role in the value creation of investors. The rights of the minority shareholders are suppressed and the firms in these markets cannot produce real value for shareholders as actions of the managers mostly favour the majority shareholders.

The management and the shareholders in a developing market do not use the tools of hostile takeover and incentives to control the actions of managers. In the case of a

hostile takeover, the managers are forced to perform well to be able to hold their jobs. Similarly, appreciation and bonuses can motivate managers to produce value for shareholders (Bhagat and Jefferis, 2002).

The ownership of the management in a firm has an important bearing on its value (Morck, Shleifer and Vishny, 1988). Also, firms can improve their value in developing markets by streamlining the interests of managers with those of the shareholders. This results in the convergence of the goals of shareholders and managers ultimately improving the value of the shareholders as suggested by Mehran (1995).

2.5.8 Role of Efficiency and Liquidity in the Market

An efficient market can improve the value of a firm by incorporating available information in the share prices. The efficiency in the market enables the firms to raise credit easily because it reduces the problem of asymmetric information and moral hazard from the market, making it more stable (free from financial disaster) as mentioned by Asian Development Bank and World Bank (1998), Thillainathan (1998) and Colombo and Stanca (2006).

Markets normally observe different kinds of efficiencies. These efficiencies include allocation, dynamic and informational efficiency. Allocation efficiency in the market can be achieved by using the most productive resources for production. Dynamic efficiency can be achieved by decreasing the cost and improving the productivity of a firm. Finally, informational efficiency can be achieved by incorporating public and private information in the share prices as suggested by Colombo and Stanca (2006).

The salary of management can be linked to performance of a firm in a developed market to improve the value of a firm, as these markets are efficient and financial information is transparent. On the contrary, it is not beneficial to link the salaries and incentives of management with the share prices as majority shareholders manipulate the financials of firms in developing markets (Heinrich, 2002). The share prices are not correctly priced in these markets due to the market inefficiency (markets do not incorporate true information in the share prices) (Nam and Nam, 2004).

The liquidity in a market and existence of a market for corporate control are an important determinant of corporate governance and the value of a firm in financial markets. Liquidity makes the market informational efficient ultimately improving the value of a firm (Holmstrom and Tirole, 1993). Similarly, the market for corporate control improves the value of a firm by enabling the regulatory authorities to protect the rights of the shareholders. The managers are also disciplined and it results in reduction of the agency cost from the market as highlighted by Vives (2000).

Finally, the illiquidity and non-existence of the market for corporate control in the developing market makes the regulatory authorities unable to perform their function of monitoring the firm and cannot improve its value. Also, the majority shareholders, being a powerful monitor in these markets, do not improve the value of a firm (Heinrich, 2002).

2.5.9 Financial Disclosure and Infrastructure in the Market

The transparent and timely disclosure of financial policy (dividend and investment policy) is important for the value creation of shareholders. The management of a firm is responsible for spreading the information between majority and minority shareholders on an equal basis (Peirson et al., 2000; Damodaran, 2006).

Furthermore, the infrastructure in a market plays an important role in affecting the efficiency of a market. The shareholders in the developing economies are disadvantaged, as they do not enjoy the availability of financial information on a timely basis because of the underdeveloped infrastructure. The advancement in communication systems can play an important role in decreasing the informational asymmetry and improving the value of a firm in a developing market (Pereiro, 2002; Ahunwan, 2003).

2.5.10 Corporate Social Responsibility of a Firm

Corporate social responsibility is defined as the responsibility of a firm towards all the stakeholders such as achieving sustainable development by protecting the environment and reducing poverty in addition to creating monetary value for

shareholders. Corporate social responsibility can improve the value of firms in developing markets to a higher degree compared to the firms in developed market by providing social justice, as there is social, economic and cultural chaos in these markets. Reducing these problems in the developing market will benefit society as a whole and ultimately improve the value of a firm as suggested by Crowther and Rayman - Bacchus (2004) and Banks (2004).

In addition, the role of corporate social responsibility can be broadened by adding extra duties under the jurisdictions of corporate social responsibilities. As argued by Tunzelmann (1996) and Francis (2000), these additional responsibilities include a wide range of issues such as the use of reliable data for research, improving the packaging of goods, reducing noise, conserving water, managing risk in a system, creating more job opportunities and controlling waste emission in an environment.

Based on this new definition, corporate social responsibility in the market results in enhancing the social value of a firm as it improves the standard of living of the people and provide them with more choices of goods and services. In addition, it gives employees a cleaner and healthier environment to operate in and improves their family relationship and productivity in workplace. Finally, the market value of a firm is also improved by corporate socially responsible acts as the agency cost among the different players of the market is decreased (Batten and Fetherston, 2003; Tomasic, Pentony and Bottomley, 2003).

Corporate social responsibility is usually measured by an index, which is constructed by incorporating those aspects of the organisation that improve the social value of a firm such as ethical investment made by a firm and improving relations with the suppliers and customers of the firm (Venanzi and Fidanza, 2006).

2.5.11 Complementarities of Corporate Governance Instruments in Developing and Developed Financial Markets

The instruments used to implement corporate governance in the market should be the Edgeworth complements to reduce the opportunity cost and to improve the marginal benefit of each complement (Heinrich, 2002). The role of corporate governance

instruments differs in different markets and the best mix of instruments is required to decrease the agency cost and improve the value of a firm in these markets. The Edgeworth complements can also be streamlined with institutional environment (external corporate governance mechanism) for the genuine value creation as suggested by Heinrich (2002).

The governance instruments used by the firm to control conflicts between different stakeholders are incentive pay, management intervention, hostile takeovers, board of directors, ownership structure, monitoring by creditors, market for corporate control and efficiency of regulatory authority. These instruments can be used in combination compared to in isolation to improve the value of shareholders. The combination of these instruments is only beneficial when they are the Edgeworth complements of each other.

Similarly, the implementation of corporate governance in outsider and hybrid-systems depends on the complementarities in corporate governance instruments comprising the foundation of these systems. Zingales (1995) argues that the foundation of a hybrid system suggests that the agency cost between majority and minority shareholders is governed well compared to the agency cost between managers and shareholders. On the contrary, the agency cost between managers and shareholders is governed properly compared to the same cost between majority and minority shareholders in the outsider system of corporate governance (Mayer, 1998). This suggests that managers are an important corporate governance instrument compared to the majority shareholders in the developed financial market and can play a significant role in improving the value of a firm.

Different combinations of the Edgeworth instruments can be used to improve the value of a firm in developed financial markets. Efficient stock market, effective regulatory control, powerful board of directors, lower debt and liquid capital market are the Edgeworth complements in the developed market (outsider system). The external environment of these markets is efficient which results in a decrease in the responsibility of banks to discipline the firms. Portfolios are also diversified and a lower leverage is preferred in these markets because of the low intensity conflicts between minority and majority shareholders.

On the contrary, lower liquidity, infant regulatory authority, efficient banks, active and positive role by majority shareholders and high leverage are the Edgeworth complements of each other in developing financial markets (hybrid system). A higher debt is preferred in these markets because of the presence of majority shareholders and undiversified portfolios (Berglof, 1997). An active role is played by the majority shareholders to improve the value of a firm, as supported by Mayer (2001). The banks being creditors in the developing financial markets prefer low risk projects because they have inferior claims on the earnings of the firms as in the case of bankruptcy where the shareholders claims for financial reimbursement are given preference over those of banks.

Creditors are exposed to more risk in highly leveraged firms, as a high leverage and concentrated shareholding are the Edgeworth complements in the developing market. The value of a leveraged firm can be improved by giving the creditors more seats on a board. The higher representation on the board will reinforce the positive effects of debt in bringing improvement in the value of a firm, because they are the Edgeworth complements of each other (Heinrich, 2002). The role of complementarities is important to decrease the agency cost and improve the value of a firm in developed and developing markets.

2.6 Role of Additional Factors Affecting the CGVF Relationships in a Developing Financial Market

As discussed in Chapter 1, there are additional factors affecting the CGVF relationships in developing financial markets. This factor makes the process by which the value of a firm is affected by corporate governance different from that of the developed financial markets. The details of these additional factors are as follows.

2.6.1 Information Asymmetry

Information asymmetry plays an important role in deteriorating the performance of a firm in a developing financial market (Grossman and Hart, 1982) and hampers the economic growth in both developing and developed markets as argued by Lins (2000) and Lins and Servaes (2002). Information asymmetry in the developing market is

triggered by poor managerial performance, inefficiency in the market and different accounting standards (Dallas, 2004; Nam and Nam, 2004).

The developing market follows the hybrid system of corporate governance. The market for corporate control does not exist and shareholding is concentrated as only a few families dominate in controlling the affairs of a firm. Finally, the relationship among company, stakeholders and shareholders is based on trust, as the regulatory authorities are limited in their role of monitoring. Thus, these futures increase the risk as there is no prudent regulatory network in developing market (Berghe, 2002).

Information asymmetry in these markets is also created by the irresponsibility of managers as suggested by Mehran (1995). The management of the firms of developing market is often involved in manipulating the financial reports thus creating informational asymmetry in this market. Local and foreign investors also face barriers in gathering and analysing the financial information about the firms in developing markets due to presence of information asymmetry in these markets.

The accounting standards in developing markets are different from those of the developed market. Due to these differences, investors cannot judge the true performance of a firm in developing financial markets and are unable to make rational investment decisions, which further reduce the value of a firm (World Bank, 1998b).

2.6.2 Agency Cost

La Porta et al. (1998) highlight the role of agency cost in affecting the value of a firm in developing financial markets. According to Jensen and Meckling (1976) and Matos (2001), the different types of agency cost in a financial market are as follows.

Bonding Cost

The first type of agency cost in a firm is known as bonding cost. The cost includes the appointing an independent auditor and associated expenses such as salaries paid in the process of implementing corporate governance principles in a firm.

Residual Cost

The second type of agency cost in a firm is known as residual cost. The residual costs are incurred by a firm in appointing an independent board and in carrying out the companies' corporate social responsibility. The cost of appointing an independent board includes the expenses incurred both in their appointment and incentives to them.

Monitoring Cost

Finally, the monitoring cost is borne by a firm in the process of monitoring the activities of managers. The shareholders bear these costs initially, but later on these costs are recovered from the management's compensation plans. Better management requires less monitoring costs so that the value of the shareholders can be improved.

Due to market imperfections, the adverse role of majority shareholders and inadequate management and corporate financial policies in developing financial markets, the above mentioned agency costs were triggered and affected the value of a firm in a negative manner.

2.6.3 Role of Banks in Affecting the Value of a Firm in Developing Financial Markets

Banks can play an important role in the implementation of corporate governance in developing market as argued by La Porta et al. (1998). Banks in the developing market have played a detrimental role in the implementation of corporate governance. They are inefficient in delivering their services of transferring funds from savers to users. In addition, they have not had appropriate criteria for lending and so could not use leverage as a tool to implement corporate governance (Fry, 1995).

The responsibilities of banks as a monitor are higher in developing markets compared to developed financial markets. Banks are better monitors of firms compared to family monitoring in developing markets (Heinrich, 1999). The monitoring by a bank is less costly compared to public monitoring where all the shareholders are doing the

same job. Banks as creditors play the role of a monitor and eliminate the free rider problem from the market thereby reducing the duality of effort as argued by Diamond (1984) and Admati, Pfleiderer and Zechner (1994).

In addition, bankruptcy laws also play an important role in improving the value of a firm. Bankruptcy laws in developing markets are different from those found in developed markets. The firms in developing markets are highly leveraged so there is a need for managing agency costs between creditors and shareholders. In the developing market, bankruptcy law is tough on borrower as it is important to look after the financial safety of banks that provide a large amount of funding to the firms of the developing market (Heinrich, 2002).

2.7 The Relationship between Corporate Governance and Corporate Finance (Operational, Financial and Capital Structure)

As we have discussed in Section 2.5, corporate governance has a relationship with the value of a firm. Similarly, corporate governance is also related to financial decisions, and financial decisions also have implications for corporate governance (Hirschey, John and Makhija, 2003).

Corporate governance is related to the operational, financial and capital structure of a firm (Bishop et al., 2004). The details are as below.

2.7.1 Operational and Financial Structure

Operational structure of a firm is related to the size of a firm, factors of production (capital and labour mix) and weighted average cost of capital. Whereas, financial structure is related to executive remuneration, dividend policy and the debt-equity structure of a firm. The firm can effectively use operational and financial instruments to improve its value (Dewatripont and Tirole, 1994; Copeland, Weston and Shastri, 2005).

2.7.2 Capital Structure and Theories of Capital Structure

Optimal capital structure can also be used as a powerful tool to improve the value of a firm. The capital structure or amount of leverage chosen by the top management also depends on the level of incentives attached to the value of a firm. The executives will choose for higher risk to capture higher returns if they receive higher benefits after improving the value of a firm (Morin and Jarrell, 2001). There are different theories of capital structure related to corporate governance and the value of a firm.

The first theory in the literature of finance is about the capital structure and is known as the Modigliani and Miller hypothesis (1958, 1963). According to this theory, capital structure is irrelevant in improving the value of a firm as argued by Elton and Gruber (1975). There is neither agency cost related with high leverage and no interest rate, transaction cost nor bankruptcy cost as firms operate in a perfect market. Also, there is a tax benefit associated with debt and this assumption makes the optimal capital structure as 100% debt.

The second theory is called the trade-off theory. This theory states that the tax benefits associated with leverage is offset by the agency cost of the debt and the cost of financial distress. It is further argued that tax benefits achieved at the corporate level are offset by tax disadvantages at the individual level (Morin and Jarrell, 2001).

The final theory of capital structure is the second trade-off theory. This theory suggests that debt can be used as a double-edge sword. It has advantages in terms of solving the free cash flow problem as the free cash flow in a firm can be used to pay off the debt (Ogden, Jen and O'Connor, 2003). However, there are also disadvantages such as cost of financial distress and agency cost between creditors and managers (Miller, 1977).

2.8 Management and Corporate Governance

Similar to the implication of finance to improve the value of a firm, the management also enjoys a significant importance in affecting the value of a firm in financial markets. Following the principles of management, such as the efficient production of

goods and services, setting goals for the organisation and achieving those goals by using the best possible resources, can improve the value of a firm. The firm can also maximise the profits by using human and non-human resources and technical and conceptual skills (Bartol et al., 2005).

Managers can use sophisticated mathematical models to improve the effectiveness of the decision-making process. Effective management of a firm controls the operations by using advanced technology, transforms the inputs into outputs efficiently and controls the quality of their products so that the value is created for shareholders. The value of a firm can be improved by rotating jobs, which involves shifting the workers in a sequential order and by allocating a wider variety of tasks to make the job more challenging. The firm can produce at the optimal level by taking care of the attitudes, values and beliefs of employees, which ultimately improve the value of a firm.

Firms can also improve their value by shifting some of their operations to a country with cheap factors of production. This action will decrease the cost of production, ultimately maximising the firm's revenue. Similarly, a firm (expatriate) can make strategic alliances with the locals. The strategic alliances can enable both the parties (local and expatriate) to improve their value. The strategic partners should improve their business relations with each other by setting a single goal and by eliminating agency cost between the management of a firm as argued by Yan (2005).

The firms of developing market do not follow the principles of the management and deteriorate the value of the shareholders.

2.9 Control Variables and Corporate Governance

Control variables are the determinants of the value of a firm, which are not confined by the corporate governance instruments. These control variables are the important variables in addition to the corporate governance instruments in affecting the value of a firm in the models of corporate governance. Control variables play an important role in establishing the relationship between the independent and dependent variables and also reveal that the relationship between the independent and dependent variables is also influenced by several other factors, which adds robustness to the model by

making the results more reliable. In the literature of corporate governance and the value of a firm, solvency ratios, quick ratios and profitability ratios are widely used as control variables.

The control variables in the current study are return on total assets, market capitalisation and price to book value ratio. These are expected to have a significant impact on corporate governance and the value of a firm in developing and developed financial markets. A discussion of these control variables is presented in Chapter 4.

2.10 Existing Literature about the CGVF Relationships

The literature on corporate governance and the value of a firm suggests a mixed relationship between them in developing and developed financial markets (Hermalin and Weisbach, 1991; Yermack, 1996; Bhagat and Black, 2002). In this section, we will critically review the literature to justify the foundation of this study.

Shleifer and Vishny (1997), Karpoff, Marr and Danielson (2000), Claessens and Fan (2002) and Bebchuk, Cohen and Ferrell (2004) argue that legal framework plays an important role in decreasing the agency cost in a financial market. Black (2001) argues that legal efficiency can improve the value of firms in developing markets to a higher degree, as there is a more room for improvement in these firms. The efficient regulatory authority protects the rights of the shareholders, improving the value of a firm.

The role of majority shareholders (concentrated shareholding) is important in affecting the value of a firm and is also mixed in terms of improving the performance of a firm. The studies conducted by Pinkowitz, Stulz and Williamson (2003) and the World Bank (2003) argue that large shareholders are mostly involved in tunnelling and suppressing the rights of minority shareholders. On the contrary, Shleifer and Vishny (1986) and Kaplan and Minton (1994) suggest that blockholders play a constructive role in improving the value of a firm in developing markets as they inject the provisions of corporate governance into a firm making it more democratic.

Grossman and Hart (1982) identified that majority shareholders also solve the free rider problem. Free rider problems arise when some of the shareholder do not pay the monitoring cost and acquire benefits from the cost paid by others. Franks and Mayer (1994) and Yafeh and Yosha (1995) support the same views and confirm that majority shareholders discipline the board by removing the underperforming directors and by preventing the managers from over spending the free cash flow. These measures protect the rights of the shareholders and improve the value of a firm.

Researchers in the past have also found a mixed relationship between the value of a firm and debt. Novaes and Zingales (1995) and Zweibel (1996) have suggested that debt creates a negative value for shareholders. They argued that agency cost created by debt is higher than the benefit derived from it. On the contrary, Jensen (1986) and Claessens, Djankov and Pohl (1997) have proved a positive relationship between the value of a firm and debt. They argue that debt is beneficial for the firms and solves the free cash flow problem by disciplining the management of a firm.

Board size is also an important aspect for value creation in a firm. There are diverging views about the performance of a firm and its board size. The first view suggests that a larger board is associated with the negative performance of a firm as it creates an agency cost and it is hard for a larger board to make a unanimous conclusion as suggested by Yermack (1996) and Eisenberg, Sundgren and Wells (1998). Jensen (1993) also suggests that it is difficult for the CEO to control the board when the board size is greater than seven or eight members. The bigger board is involved in passive monitoring and board members do not perform at an optimal level to improve value of the shareholders.

On the contrary, Pfeffer (1972) and Zahra and Pearce (1989) presented different views about the board size and firm performance. They suggested that a bigger board is good for a firm because the higher number of directors make the jury more competent and skilled. A bigger board brings higher management skills and makes it easier for the board to make strategic decisions that result in improving the value of a firm.

Similarly, a CEO can easily manipulate a smaller board and can compromise the efficiency and independence of a board. In contrast, larger boards are more independent and efficient, as the CEO cannot manipulate it. Kyereboah-Coleman and Biekpe (2005) also find a positive relationship between the board size and the value of firm in developing markets.

Some researchers in the literature of corporate governance have diverging views from the above-mentioned schools of thought. Hart (1995) argues, the advantages of bigger board size such as increased management skills are offset by the disadvantages such as lack of coordination and poor decision-making by the CEO. Similarly, Beiner et al. (2004) found no relationship between the board size and performance of a firm in the developed financial markets.

The role of the CEO and the chairman is important in improving the value of a firm. A single person holding both roles (CEO duality) has an important bearing on the value of a firm and there are two schools of thought in this regard. Fama and Jensen (1983) supported agency theory and suggested that a single person holding the positions of CEO and chairman cannot monitor the organisation well. In addition, a person being head of the board and operations is not a healthy sign keeping in mind the principles of corporate governance. They further suggest the agency problem increases when a single person holds both these important roles. The shareholders also bear higher monitoring costs in the absence of the chairman in a firm.

The second school of thought about the CEO duality is called stewardship theory. The supporters of this theory are Stoeberl and Sherony (1985), Alexander, Fennell and Halpern (1993) and Brickley, Coles and Jarrell (1997). They suggest that CEO duality leads to a higher performance as it provides strength to the organisation. The CEO cannot plan and make the decisions beneficial for the shareholders in the case of contention between the CEO and Chairman. The dual leadership firm may lack proper direction affecting the shareholders wealth in a negative manner.

Bhagat and Jefferis (2002) argue that the interests of shareholders and the CEO can be aligned with each other obliging the CEO to work for the benefit of shareholders and to create value for them. This type of benefit to shareholders is wasted in the case of

the firms having a non-dual structure of leadership.

The third school of thought about the relationship between the value of a firm and CEO duality suggests the lack of a significant relationship between the two. Chaganti, Mahajan and Sharma (1985) and Daily and Dalton (1992, 1993) find no relationship between the firms' performance and CEO duality.

The diverging views and facts about the role of majority shareholders, debt, CEO duality and board size in affecting the value of a firm in developing and developed financial markets, suggest the need for a new study to shed light on the true comparative roles of these instruments in developing and developed countries.

2.11 Limitation of the Existing Studies

From the above discussion, the limitations in the literature on the CGVF relationships can be summarised as follows:

1) A comparative analysis of the CGVF relationships between developed and developing markets is lacking in the existing literature as revealed from the literature review presented above and from a recent article by Chua, Eun and Lai (2007). It is clear that corporate governance and the value of a firm are not defined for firms in a developing market in the existing literature.

2) Definition of corporate governance and the value of a firm do not include factors important for the firms in the developing market (Sarkar and Sarkar, 2000). As there is a clear difference between corporate governance in developing and developed financial markets, this thesis attempts to incorporate the relevant factors important for developing and developed financial markets providing a broader definition of corporate governance and the value of a firm.

3) The relationship between corporate governance and the firm performance is not well defined and analysed in the existing literature. There is a need to test the new relationship between corporate governance and the value of a firm. Also, there is a need to check whether improvement in corporate governance behaviour leads to

improvement in the value of a firm. This study attempts to fill this important gap in the literature.

4) It is proved that the data used by previous researchers while conducting research in developing markets, was biased, incomplete, lacked robustness, and led to incorrect statistical results. Therefore, a broader, more robust data set has been used in this study to generate reliable results.

5) An optimal mix of corporate governance instruments is missing in the literature for implementation of corporate governance in developed and developing financial markets. There is a requirement for testing the combination of corporate governance instruments so that the marginal benefit of each instrument is improved and affect the value of a firm in a positive manner.

6) In addition, there is a need to perform econometric tests to understand the process and mechanism by which the value of a firm is affected by corporate governance instruments in developing and developed financial markets. The current study conducts empirical testing by applying sophisticated econometric models and will analyse the results in the light of management and business theories.

To address the gaps in the literature, a new conceptual framework has been developed and implemented. This new conceptual framework will be discussed in the next chapter.

2.12 Conclusion

In this chapter we have discussed corporate governance and its relationship with the value of a firm. The measures used to value a firm in these markets are also analysed. Furthermore, the role of internal and external corporate governance mechanisms and complementarities among these instruments is investigated. The limitations of the current literature and the need to develop a new conceptual framework are also suggested. The next chapter presents a new conceptual framework that includes models for developed and developing financial markets and hypotheses building to test the relationship between corporate governance and the value of a firm.

Chapter 3
A New Conceptual Framework:
Hypotheses and Model Development

3.1 Introduction

We have discussed the limitations of the literature in the previous chapter. These limitations suggest that corporate governance and the value of a firm are not defined in the light of the important factors affecting the value of a firm in developing and developed financial markets. Furthermore, the process by which the value of a firm is affected by corporate governance instruments is different in developing and developed financial markets. These differences arise due to the different legal, economic, political, corporate governance structures and financial systems in these markets (Dallas, 2004). These differences make a comprehensive comparative study of the CGVF relationships in developing and developed markets imperative.

In this chapter, we will develop a new conceptual framework that will incorporate all the important factors relevant for both the markets. This new framework will facilitate us to understand the differences in the process by which the value of a firm is affected in developing and developed financial markets which, in turn, enable us to develop some testable hypotheses regarding the differences in the CGVF relationships.

This chapter is structured as follows. Section 3.2 presents the differences in the institutional and theoretical perspectives between developed and developing markets to set up the background for advancing the testable hypotheses to be evaluated in this study. Section 3.3 presents a new conceptual framework. Section 3.4 presents the corporate governance models for developed and developing financial markets and Section 3.5 deals with the testable hypotheses of the current study. Section 3.6 describes social value of a firm. Section 3.7 presents the financial aspect and the valuation of a firm, and finally, Section 3.8 concludes the chapter.

3.2 Institutional and Theoretical Perspectives in Developed and Developing Financial Markets

3.2.1 General Characteristics

There are substantial differences in the institutional, organisational and market aspects of the economy and society in developed and developing markets (Hofstede and Hofstede, 2004). The characteristics of developing countries, which set them apart from developed countries, can be summarised as follows*: non-existence of markets, market imperfections, incomplete contracts, rudimentary public administration, political instability, underdeveloping regulatory framework, concentrated shareholdings and high levels of illiteracy* (Jones, 1997). These differences make the implications of various management theories such as neoclassical theory, agency theory and stewardship theory different for these two markets.

3.2.2 Management Theories

A brief explanation of the relevant economic and business management theories are as follows.

Neoclassical Theory

Jacobson and O' Callaghan (1996) explain that neoclassical theory suggests that firms operate in the perfect market with no market imperfection and the objective of these firms is only to maximise profits. According to this theory the cost incurred by the firm is only limited to the production process. The firms equalise the marginal revenue and marginal cost for the maximisation of their profits.

Agency Theory

Jensen and Meckling (1976) and Matos (2001) suggest that agency cost in the firm arises from the principal-agent problem. The managers being agents do not maximise the profits of the shareholders (principals) and are involved in empire building where their decisions do not improve the value of the shareholders.

Stewardship Theory

This theory suggests there is no agency cost between the principal (shareholders) and the agent (management). The interests of the management coincide with the shareholders and there is no need to motivate or discipline the management for the value creation of the shareholders (Davis, Schoorman and Donaldson, 1997).

The relevance and applicability of these economic and management theories are different between developed and developing markets (Hofstede and Hofstede, 2004). Given the low level of development or a weak organisational and institutional framework in developing markets, it can be argued the agency theory is relatively more applicable in representing the organisational behaviour and business management principles in the developing market compared to the developed market. This justifies the development of a new framework for comparative CGVF relationships in developing and developed countries based on the emphasis of the prominence of the agency theory in developing countries.

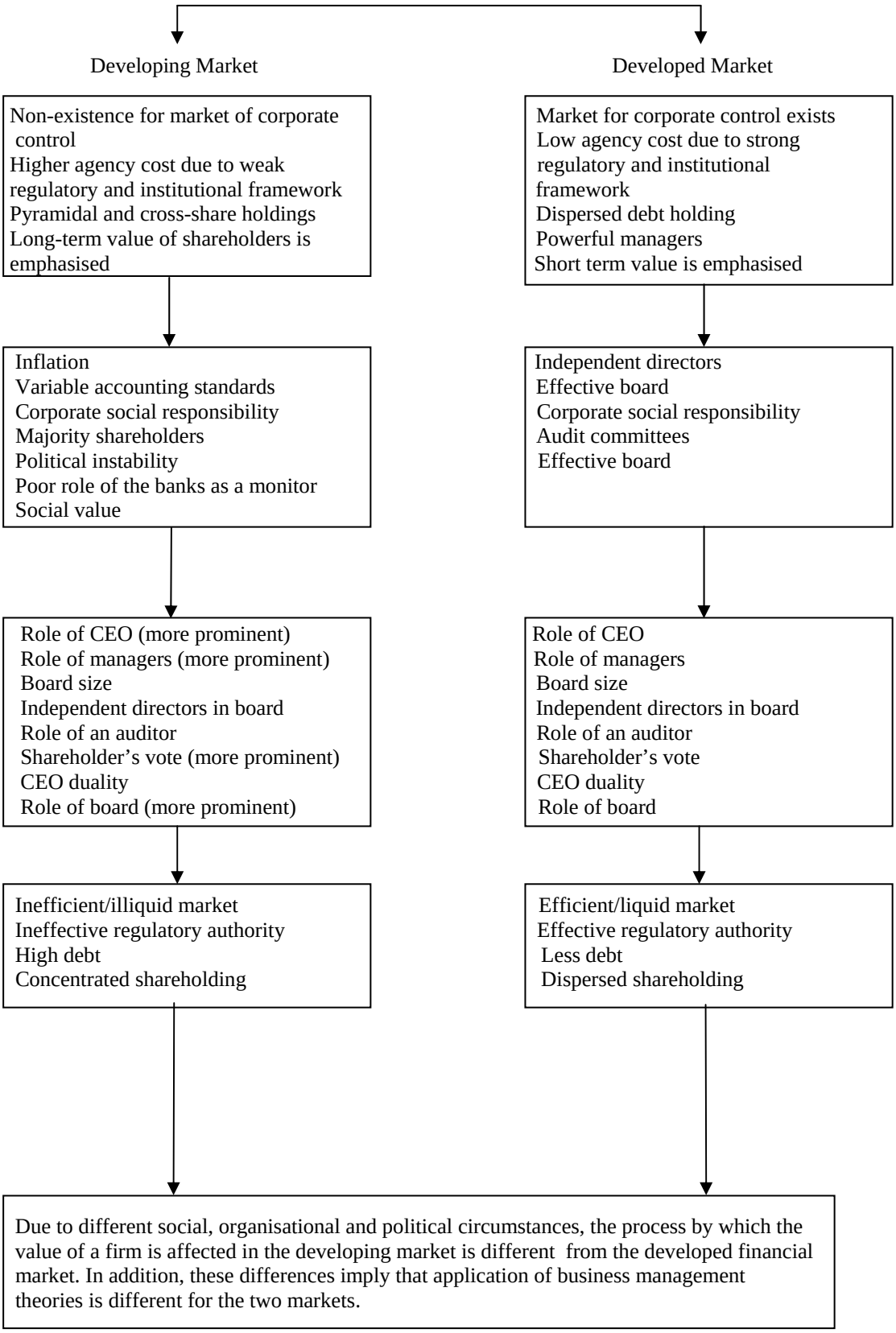
3.3 A New Conceptual Framework

In the previous studies of corporate governance and the value of a firm, the external and internal corporate governance mechanism and control variables are used to construct the models. The external corporate governance includes the role of judiciary, role of banks, market efficiency, role of foreign investors, political situation, infrastructure in the economy, role of government and role of the regulatory authority. While, the internal corporate governance mechanisms in the market consist of the role of independent directors, role of executive directors, role of remuneration and audit committee, role of CEO, role of Chairman, role of auditor and the role of debt.

As discussed in Chapter 2, control variables play an important role in affecting the relationship between independent and the dependent variables. The control variables used in the literature are price to book value ratio, market capitalisation, return on equity, cash flow, profit margin and return on total assets.

Figure 3.1

Conceptual Framework: CGVF Relationships, Developing and Developed Markets



A new conceptual framework involves the external corporate governance mechanism, internal corporate governance mechanism and control variables. These variables are based on the important factors affecting the relationship between corporate governance and the value of a firm in developing and developed financial markets. The internal corporate governance instruments consist of board size, role of majority shareholders, role of debt and CEO duality. The external corporate governance instruments consist of judicial and regulatory authority efficiency and the control variables in this study are price to book value ratio, market capitalisation (liquidity) and return on total assets.

The conceptual framework shows that the foundation of the developing financial market is different from the developed financial market. Furthermore, the developing financial market follows the hybrid system of corporate governance and has different characteristics compared to the developed financial market which follows the outsider system of corporate governance. Finally, there are some additional factors affecting the CGVF relationships in the developing financial market due to imperfections in this market. The literature lacks a comparative and comprehensive research justifying the need for a new study to redefine and testify the CGVF relationship in these markets.

3.4 Corporate Governance Models for Developed and Developing Financial Markets

By incorporating the different elements of a new approach we can represent the general multi-factor valuation model as below:

$$VC = f(CV, EXTC, INTC, D, E) \quad (3.1)$$

where: VC = value of a company;
CV = control variables;
EXTC = external corporate governance instruments;
INTC = internal corporate governance instruments;
D = dummy variable; and
E = error term.

The model represents that the value of a firm (regressand) can be affected by the independent variables (regressors), which includes external and internal corporate governance variables and control variables.

The hypotheses presented in this chapter will be tested by the specific corporate governance models based on important factors affecting the relationship between the value of a firm and corporate governance mechanisms mentioned below. The first two CGVF models are based on developed and developing financial markets. On the contrary, the third corporate governance model is about the cross-market analysis. The individual models for the developed and developing markets will also explain the differences between the CGVF relationships in these markets and are presented below.

3.4.1 Model for the Developed Financial Market

The multi-factor model used for Australian market is as follows:

Tobin's Q = f (Log Size, Duality, Gr, Log Mc, Pb, Ac) (3.2)

where: Tobin's Q = proxy for the value of a company;
Log Size = logarithm of board size;
Duality = Chairman and Chief Executive Officer duality;
Gr = gearing;
Log Mc = logarithm of market capitalisation;
Pb = price to book value ratio; and
Shareholder concentration (Ac) = Agency cost.

The equation represents the model for the valuation of the companies in developed financial markets. It suggests that the value of a firm can be determined by control variables and internal corporate governance instruments.

3.4.2 Model for the Developing Financial Market

The multi-factor model used for Malaysian market is as follows:

Tobin's Q = f (Log Size, Ac, Duality, Pb, Rota, Log Mc) (3.3)

where: Tobin's Q = proxy for the value of a company;
Log Size = logarithm of board size;
Shareholder concentration (Ac) = Agency cost;
Duality = Chairman and Chief Executive Officer duality;
Pb = price to book value ratio;
Rota = return on total assets; and
Log Mc = logarithm of market capitalisation.

The equation 3.3 represents the model for the valuation of the companies in developing financial markets. It suggests that the value of a firm can be determined by the independent variables such as control variables and internal corporate governance instruments.

3.4.3 Model for the Cross-market Analysis

The cross-market model for the valuation of companies in developing and developed financial markets is as follows:

Tobin's Q = f (Duality, Gr, Log Pro, Pb, Rota, Log Size) (3.4)

where: Tobin' s Q = proxy for the value of a company;
Duality = Chairman and Chief Executive Officer duality;
Gr = gearing;
Log Pro = logarithm of procedures involved in the settlement of disputes (regulatory index);
Pb = price to book value ratio;
Rota = return on total assets; and
Log Size = logarithm of board size.

The above mentioned corporate governance model specifies that the value of a firm (Tobin's Q) depend on the internal and external corporate governance mechanism and control variables in developing and developed financial markets.

As mentioned in Section 3.3, variables in the above-mentioned corporate governance models will be based on a new conceptual framework, which considers the important factors affecting the CGVF relationship in developing and developed financial markets. The tests on the corporate governance models will allow us to understand the process by which the value of a firm is affected by the corporate governance instruments in developing and developed financial markets.

3.5 Hypotheses Development

The above theoretical framework is now used to develop some testable hypotheses in this study.

The hypotheses presented in this study will be tested in the context of these different social, economic and political factors important to the firms of developing and developed markets. The different hypotheses derived here are based on the concept that the value of a firm particularly in developing financial markets is determined by a set of factors, the role of some or all of which are different in developed financial markets. However, a multi-factor model, which considers these factors, is relevant for studying the CGVF relationships in developing and developed financial markets.

3.5.1 Summary of Hypotheses

The hypotheses are based on the central argument that CGVF relationships are different in developing and developed financial markets due to differences in the social, political and cultural variations in these markets. The hypotheses in this study are also about differences in the internal and external corporate governance mechanism in developing and developed financial markets. The first hypothesis (H1) is about the external corporate governance mechanisms such as regulatory and judicial efficiency. The hypothesis suggests that an efficient regulatory regime protects the rights of shareholders and has a positive relationship with the value of a firm. This relationship is more prominent in developed markets compared to developing markets.

The second hypothesis (H2) relates to the role of majority shareholders. The literature suggests a negative role of majority shareholders in affecting the value of a firm in developing and developed financial markets and the hypothesis is based on the same argument.

The third hypothesis (H3) suggests that Chief Executive Officer duality is harmful to the performance of a firm. Corporate governance principles suggest that a single person having two important positions on the board can result in biased decision making thereby having a negative impact on the value of a firm.

The fourth hypothesis (H4) is based on the view that a bigger board affects the value of a firm in a negative manner. More strength in a board is contrary to corporate governance principles because of the observer role by the members of a larger board.

The fifth hypothesis (H5) is about the role of debt in improving the value of a firm. A negative relationship of debt with the value of a firm is supported in the developed market (H5a) because of the absence of majority shareholders in these markets. On the contrary, a positive relationship of debt with the value of a firm (H5b) is supported in developing markets as the majority shareholders play an important role in monitoring the activities of the managers.

The sixth hypothesis (H6) explores the relationship between corporate governance and the value of a firm. The hypothesis suggests that the relationship between corporate governance and the value of a firm is prominent in developing markets compared to developed markets.

Furthermore, to improve the value of a firm in developing and developed financial markets the corporate governance instruments should be the Edgeworth complements of each other. These complementarities exist in internal and external corporate governance instruments. The complementarities between internal corporate governance mechanisms will be tested by checking whether CEO duality is the Edgeworth complement to board size and also whether board size is the Edgeworth complement of CEO duality in these markets. Similarly, the complementarities between external and internal corporate governance mechanisms will also be tested by

separating internal (board size and CEO duality) and external (regulatory index) corporate governance mechanisms respectively.

The final test in this study will examine the relevance and importance of the concept of social value in a developing market.

3.5.2 Detailed Specification of Hypotheses

The first hypothesis relevant for the study is about the role of regulatory authority and judiciary in affecting the value of a firm. The hypothesis is as follows.

H1: Regulatory and judicial efficiency leads to improvement in the value of a firm.

H1a: The external corporate governance mechanism (regulatory authority) is the Edgeworth complement of internal corporate governance mechanisms (board size and CEO duality).

H1b: The internal corporate governance mechanism (CEO duality and board size) is the Edgeworth complement of external corporate governance mechanism (regulatory authority).

The new conceptual framework suggests that the role of effective regulatory authority is important in improving the value of a firm. According to World Bank (1997), La Porta et al. (1997), Durnev and Kim (2002), Dittmar, Mahrt-Smith and Servaes (2003) and Nenova (2003), the democratic firm (higher shareholder rights) creates more value for the shareholders compared to the autocratic firm (lower shareholders rights). The efficient regulatory regime produces more value for shareholders as it makes the firm democratic and reduces the private benefits of majority shareholders from the market. The agency cost between the managers and the shareholders is also reduced because the majority shareholders are restrained form tunnelling. This results in value creation for the shareholders in developed and developing financial markets.

The weak corporate law in developing markets has encouraged the majority shareholders to manipulate the minority shareholders as argued by La Porta et al. (1998). The majority shareholders exploit minority shareholders, as the regulatory

authorities cannot set an appropriate regulatory measure to protect the rights of shareholders. The minority shareholders are unable to participate in emergency meetings about the financial policy (debt and dividend policy) of a firm. This results in an increase in agency costs between majority and minority shareholders in these markets affecting the value of a firm in a negative manner.

According to Asian Development Bank (1997) and Nenova (2003) regulatory authorities in the developing markets are unable to perform the following functions:

1) to decrease the gap of information asymmetry between managers and shareholders;
2) to empower the board of directors to be robust in making and implementing decisions;
3) to protect the rights of creditors and debtors;
4) to improve the relationship of stakeholders with the management of firms;
5) to remove CEO duality;
6) to appoint independent auditors;
7) to align the incentives of management with their performance; and
8) to control the adverse actions of managers.

According to Doidge, Karolyi and Stulz (2001) and Gompers, Ishii and Metric (2003) higher shareholder rights minimises the free hand of managers and forces them to perform well and to improve the value of a firm. The agency cost is much lower in democratic firms and free cash flow is used in a healthy way to improve the value of a firm and create financial stability in the market. In case of an indebted firm, free cash flow is used to meet the debt repayments.

Supporting the same views, La Porta et al. (1998) argue that firms in developing markets have a lower value because the judiciary in these markets is weak and biased. In the absence of effective judiciary, managers have a free hand to pursue their interests in a firm. The effective judiciary reduces the agency cost by protecting the rights of shareholders and enabling them to play a role in decision-making. Furthermore, a stronger regulatory regime eliminates risk from the system and makes the market more stable (Nam and Nam, 2004).

The education of the judges in understanding corporate law plays an important role in affecting the value of a firm. As Ahunwan (2003) mentions, the training of judges in understanding corporate crimes is required in developing markets. There are no guidance sessions or proper libraries for judges, and corporate law in these markets is weak. Political groups in developing markets have also rendered the judges corrupt, ineffective and unproductive. The judiciary in developing markets needs to be effective and neutral to improve the value of a firm (Pereiro, 2002).

In addition, the inefficient regulatory authority and judiciary in the developing market have resulted in triggering the agency cost in these markets. The details are as follows.

Holmstrom and Tirole (1993) argue that there are hurdles in the free flow of information and a high level of corruption in developing markets is due to a weak regulatory regime. In addition, due to inefficiency and corruption in the developing market, investors cannot make good financial decisions to make the firms healthy. Similarly, the World Bank (2003) argues that banks operating in the market with asymmetric information cannot distinguish between good and bad borrowers. This results in irrational decision-making by the management of banks adding instability in the market. As factors affecting the value of a firm in the developing market are different from the developed market, there is a need to understand the process by which the value of a firm is affected in these markets.

The relationship between corporate governance and the value of a firm also depends on the complementarities in the corporate governance mechanism. According to Klapper and Love (2002) the role of a regulatory authority (external corporate governance mechanism) is also important to encourage the mix of the internal corporate governance mechanism. The majority shareholders manipulate the CEO/Chairman and the board members in the developing market, so the conceptual framework suggests that efficient regulatory authority is the Edgeworth complement to the internal corporate governance mechanisms (board size and CEO duality) in these markets. Similarly, the internal corporate governance mechanism is hypothesised to be the Edgeworth complement to an efficient regulatory authority in these financial markets. The efficiency of a regulatory authority is represented by

procedures in equation 3.4 and we support a negative relationship between the inefficient regulatory authorities and the value of a firm (Log Pro < 0).

The next hypothesis relevant for this study concerns the role of majority shareholding in affecting the value of a firm. The hypothesis is as follows.

H2: The majority shareholders and managers deteriorate the value of a firm in developing and developed financial markets.

The role of managers and the majority shareholders is important in affecting the value of firms in developing and developed financial markets. The majority shareholders can play an important role in reducing the agency cost by monitoring the firm in developing markets compared to the minority shareholders. On the contrary, minority shareholders have less financial interest attached to the value of a firm, and so have little incentive to monitor the firm.

As discussed in Chapter 2, there are diverging views about the role of majority shareholders in affecting the value of a firm. The new conceptual framework is based on agency theory, which suggests that majority shareholders and managers harm the value of a firm in developing and developed financial markets. Pinkowitz, Stulz and Williamson (2003) and Nam and Nam (2004) argue that firms with concentrated ownership in developing markets have performed worse compared to firms operating with dispersed shareholding. They further explain that large shareholders lessen the value of a firm in the developing market by not monitoring the management of the firms and not using the cash flow to improve the value of the shareholders.

The rights of minority shareholders are not protected in the developing market, as they cannot play an effective role in firing an underperforming CEO, maintaining the optimal board size and improving the performance of a firm. The majority shareholders also restrict the operation of a firm to certain areas and manage to draw illegal benefits from the assets of a firm.

Similarly, Ahunwan (2003) suggests that the government as a majority shareholder is unable to create value for the minority shareholders in the developing market.

Government officials have inadequate management skills and are inefficient in running their organizations. The firms managed by the government have poor financial health as indicated by Gupta (2005). In developing financial markets, these firms should be privatised so that the value can be created for the shareholders.

There is also an agency cost between managers and shareholders in the developed market. The managers in these markets often pursue their own interest instead of working for the benefit of shareholders. According to Berle and Means (1932) and Colombo and Stanca (2006), agency costs arise in a firm due to the separation of control and ownership, as the managers (controllers) do not improve the value of the shareholders (owners) due to the conflicts of interest between each other.

Colombo and Stanca (2006) further suggested that managers can create two types of agency cost in a firm. The first type of agency cost arises when managers select projects according to their personal benefit. This is known as over investment of free cash flow because the cash flow is not used to pay dividends to the shareholders. The cash flow is used to finance new and often inappropriate projects, which disadvantage the shareholders. The other way of creating an agency cost is due to the undersupply of effort by managers. This situation arises when managers share the profit of firms with creditors and exert less effort for value creation in an attempt to stop the benefits accrued by creditors. The managers in this case are more concerned about their own private benefits rather than improving the value of the stakeholders. The shareholders concentration is represented by Ac in equation 3.2 and 3.3 and we support a negative sign of the variable in these models ($Ac < 0$).

The next hypothesis relevant for the study is about the role of CEO duality in affecting the value of a firm. The hypothesis is as follows:

H3: CEO duality in firms of developing and developed markets leads to deterioration of the performance of a firm as suggested by agency theory.

H3a: CEO duality is the Edgeworth complement of board size in these markets.

As discussed in Chapter 2, there are two main theories about the relationship between

CEO duality and the value of a firm in developing and developed financial markets, agency theory and stewardship theory. The new conceptual framework is based on agency theory and suggests a negative relationship between the value of a firm and CEO duality as the board cannot control the CEO who is also the leader or Chairman of the board. The agency cost of debt increases and independence of the board diminishes in the case of duality in firms. In addition, the shareholders pay more monitoring and residual costs, as the interests of the CEO are different from the shareholders. In the light of agency theory, the CEO as agent does not look after the interests of the principal (shareholders).

Fama and Jensen (1983) argue that CEO duality in a firm favours the underperforming CEO as it is difficult for the board to remove them. The argument is confirmed by Goyal and Park (2002) who suggest that a person holding both the top positions is contrary to corporate governance principles and affects the value of a firm in a negative manner as the board cannot discipline the CEO. The value of a firm is harmed as there is no check on the CEO and he is free to make any decision.

Similalry, Rechner and Dalton (1991), White and Ingrassia (1992), Pi and Timme (1993) and Boyd (1994) find that CEO duality leads to worse performance because it makes the board less powerful in removing the underperforming CEO. Duality in a firm may lead to a loss of confidence in the company by shareholders and the firms become less attractive for investors, affecting the value of a firm in a negative manner.

Fama and Jensen (1983) further argue that the role of Chairman and Chief Executive Officer can be different from each other. Each role can be assigned to a single person. The CEO should monitor the operations of the organisation and the Chairman should chair the board of directors and monitor the performance of the CEO. Separation of the role of the CEO and Chairman is important to improve corporate governance practices in a firm.

The role of CEO is negative in improving the value of a firm in the developing market. CEOs of these firms are not disciplined to improve the value of a firm, as the regulatory authorities in these markets are inefficient and ineffective. Similarly, the

larger shareholders do not discipline the top management of a firm toward value creation; instead they use them for their own private benefit.

In the equations 3.2, 3.3 and 3.4 CEO duality is represented by Duality and we suggest a negative sign for the variable in these models. The new conceptual framework also suggests that CEO duality and board size in combination are used to implement corporate governance and improve the value of a firm in these markets. We hypothesise that board size and CEO duality are the Edgeworth complements of each other in developing and developed financial markets.

The next hypothesis relevant for the study is about the role of board size in affecting the value of a firm. The hypothesis is as follows.

H4: The bigger board results in the erosion of the value of a firm in developing and developed financial markets, as suggested by agency theory.

H4a: Board size is the Edgeworth complement of CEO duality in these markets.

The board of director plays an important role in the implementation of corporate governance. The board should have authority to protect shareholders, discipline poor performing managers and resolve conflicts between managers and shareholders as suggested by (Fama and Jensen, 1983; Baysinger and Butler, 1985). Zahra and Pearce (1989) distinguish two important roles of the board of directors. The first duty is to control the operations of the firm and activities of the CEO. The second job is to promote the organisation by such activities as improving the image of the firm and maintaining the relationship between the stakeholders and firm management. The board can improve the value of a firm by performing these two functions.

This study is based on agency theory, which predicts that larger board creates an agency cost and does not monitor the firm properly. Lipton and Lorsch (1992) and Jensen (1993) are first to hypothesise that board size affects firm performance and suggest a negative relationship between the larger board and the value of a firm. Yermack (1996), Eisenberg, Sundgren and Wells (1998) and Loderer and Peyer (2002) also support a negative relationship between the value of a firm and large

board size. They further argue that large board leads to a free rider problem when most of the board members play a passive role in monitoring the firm and make delayed and irrational decisions harming its value.

In addition, Jensen (1993) and Tomasic, Pentony and Bottomley (2003) argue that a smaller board is more cohesive and it is easier for the CEO to control the board members. Jensen (1993) argues that there is a higher agency cost in the bigger board and suggested the optimal board size as seven or eight members. A board size bigger than seven or eight member lead to deterioration of the value of a firm.

Endorsing the results of the above-mentioned researchers, Jawell and Reitz (1981) and Conyon and Peck (1998) proved a negative relationship between board size and the value of a firm. They argue that a larger board size leads to mismanagement and lack of coordination in a firm. Furthermore, it lacks cohesiveness, making it difficult for the larger board to monitor a firm. According to Yermack (1996) a large board cannot discipline the managers because of the agency cost among the board members, and is less likely to dismiss an underperforming CEO.

According to Asian Development Bank (1997), a board size in developing markets is not optimal for the value creation of the shareholders. Boards do not monitor the affairs of the firms properly in these financial markets due to weak regulatory authorities. The board members serve the interest of the majority shareholders and enable them to draw private benefits from the firm. In equations 3.2, 3.3 and 3.4, board size is represented by Log Size and we support a negative sign of the variable in the model.

The new conceptual framework developed in this study also suggests that a CEO/Chairman and a board of directors should be present in a firm to improve the value of shareholders, as both instruments constitute internal corporate governance mechanisms and are the Edgeworth complements of each other.

The next hypothesis relevant for the study is about the role of leverage in affecting the value of a firm. A new conceptual framework suggests the following hypotheses.

H5a: The hypothesis states that low leverage improves the value of a firm in a developed market, as dispersed shareholding and less debt are the Edgeworth complements of each other.

H5b: The hypothesis states that high leverage improves the value of a firm in the developing market, as concentrated shareholding and high leverage are the Edgeworth complements of each other.

The above mentioned hypotheses will be useful to highlight the process by which debt affects the value of a firm in developing as well as developed markets and the role of additional factors in affecting the value of a firm in these markets.

As mentioned in Chapter 2, managers in developing markets create agency costs by under and over investing the free cash flow. When creditors capture some benefits of a project, the manager works below the optimal level (under invest) minimising the flow of benefit to them. Secondly, managers over invest free cash flows in pet projects to improve the value of a firm as they have private benefits attached to the project as argued by Colombo and Stanca (2006).

Debt can be used as a powerful device to improve the value of a firm (Jensen and Meckling, 1976; Jensen, 1986). Heinrich (2002) argues that in highly indebted economies, incentives of managers can be aligned to the benefits derived by the creditors. In this way, agency cost can be reduced and value can be created for the shareholders, as both instruments encourage each other's effect. Higher leverage can also control the manager's undersupply of effort by reducing the need for external equity, but it encourages the firm to take higher risk by investing in risky projects. The firm is biased towards risk because creditors share the risk of bankruptcy. Similarly, debt solves the agency problem between shareholders (equity owners) and management, but intensifies the agency cost between creditors and shareholders. So, we conclude that to make optimal financial decisions, the costs and benefits of debt must be taken into account as suggested by Heinrich (2002).

Heinrich (1999) also argues that debt holders have residual claims on the earnings of a firm, which makes them more biased towards risky projects compared to the equity

holders. This makes the firms in the developing market leveraged and majority shareholders pressurise the management to take a higher risk. On the contrary, firms in the developed market are not leveraged and there is no pressure on the management of these firms to take a higher risk because of the absence of the majority shareholders.

Debt also has advantages such as disciplining the management and solving the free cash flow problem. In case of indebted firms, most of the free cash flow is used to make the debt repayments. We conclude that higher debt disciplines the management, but at the cost of excessive risk taking. A higher debt level is also preferred in the developing market because the conflicts between creditors and management in concentrated shareholding are governed properly compared to the conflicts between shareholders and management (Berglof, 1997).

We can summarise the discussion by arguing that the role of leverage is different in a developed market compared to a developing market. The less leverage in dispersed shareholding creates value because the shareholders cannot pressurise the management to take excessive risk. In the dispersed shareholding, conflicts between the shareholders and management are governed in a better way compared to the conflicts between management and creditors (Heinrich, 2002). In addition, the dispersed shareholding is complement to dispersed debt holding and firms in the developed market should be less leveraged to produce value for shareholders. In equations 3.2 and 3.4 leverage is represented by Gearing (Gr), and a negative relationship with the value of a firm in the developed market is supported ($Gr < 0$). On the contrary, a positive relationship between the value of a firm and debt is supported in the developing market ($Gr > 0$).

The next hypothesis in this study is about the need for an enhanced corporate governance mechanism in the developing market, as the new conceptual framework suggests.

H6: Corporate governance provisions can improve the value of firms in the developing market to a higher degree, as there is more room for improvement in these firms compared to the firms in a developed financial market.

The above-mentioned hypothesis highlights the process by which the value of a firm is affected in different corporate governance systems and how the additional factors in the developing market affect this process.

As discussed in Chapter 2, there is a positive relationship between corporate governance instruments (internal and external) and the value of a firm in developing and developed financial markets (Black, 2001; Durnev and Kim, 2002; Klapper and Love, 2002; Gompers, Ishii and Metric, 2003). Berle and Means (1932) argue that an agency cost arises when managers pursue their own interests for private benefits as opposed to creating value for the shareholders. The asymmetric information and moral hazard prevent investors in the developing market from acquiring benefit from the firm, as the shareholders have insufficient information to make a financial decision and evaluate the actions of the managers in these markets.

Black (2001) suggests that the external corporate governance mechanism is weak in developing markets and the irrational acts of managers are not controlled. By improving the external corporate governance mechanism, the value of a firm can be improved to a higher degree in the developing market compared to the developed market. La Porta, Lopez-de-Silanes and Shleifer (1998) and Doidge, Karolyi and Stulz (2001) argue that due to the weak regulatory authority in developing markets, the agency cost in these markets is high as majority shareholders are involved in suppressing the rights of minority shareholders. The minority shareholders in the developing market have no representation on the board and cannot play any role in the financial affairs of the firm.

Yermack (1996), Johnson et al. (2000), Claessens and Fan (2002), Klapper and Love (2002), Dittmar, Mahrt-Smith and Servaes (2003), Gompers, Ishii, and Metric (2003) and Bebchuk, Cohen and Ferrell (2004) also find results on the positive relationship between the value of a firm and corporate governance. Good corporate governance puts emphasis on positive relationship between the principal and agent, which leads to value creation for shareholders. In addition, managers are forced to work for the benefit of shareholders and are restricted from empire building. The better-governed firms receive more investment as these firms enjoy more confidence from the shareholders.

As argued in Chapter 2, the role of internal corporate governance instruments is important in improving the value of a firm. Bain and Band (1996) and Bhagat and Jefferis (2002) argue that an independent board of directors, equal rights of minority shareholders, dispersed ownership, timely and transparent information and an independent auditor are the pillars of corporate governance. These instruments have a positive relationship with the value of a firm, as a firm having higher provisions of corporate governance improves the value of shareholders.

In addition to the poor role-played by internal and external corporate governance mechanisms in the developing market, there are some other factors affecting the relationship between value of a firm and corporate governance as suggested by Ahunwan (2003). These factors include the role of the judiciary, banks, government and politicians. The relationship between the value of a firm and corporate governance can be improved by reducing the intensity of these additional factors on the value of a firm in the developing market.

3.6 Social Value of a Firm

So far we have considered the market value of a firm represented by Tobin's Q. But in an economy a firm's real value can be more than its market value since a firm can have some social, intangible, external and non-financial benefits and value for society. The total value of a firm is composite of the social value and the monetary value.

Total value of a firm = Monetary Value (Tobin's Q) + Social Value (includes intangible values, external values, external economies, clean environment, employment benefits, and benefits to law and order from employment generated by firms etc.).

This argument is particularly related in developing countries. The firm in the developing market creates the social value by generating more jobs and reducing the crimes from the society. Furthermore, by providing clean environment and better family relations will create additional value for the shareholders in developing markets.

Furthermore, Heinrich (2002) argues that the nature of the influence of corporate governance instruments in affecting the value of a firm in the developing market is different from the developed market. These markets differ from the developed markets due to additional factors affecting the value of a firm in developing markets. These additional factors include imperfections in the market such as non-existence of the financial instruments, corporate governance mechanism and market for corporate control, inefficient regulatory authority, poor role of bank as a monitor, unemployment, poverty, social chaos, political instability, inflation and corruption.

The above-mentioned issues and factors indicate the need for considering the social value of a firm as opposed to the market value of a firm when analysing the CGVF relationships in the developing market. A preliminary approach for operationalising this concept of the social value of a firm and its econometric testing will be discussed in Chapter 5.

3.7 Financial Aspects and the Valuation of a Firm

According to Peirson et al. (2000) corporate governance principles suggest that firms should choose the optimal capital structure by taking into account the amount of free cash flow obligatory to meet debt repayments. In addition, firms can enjoy a lower cost of capital by encouraging the clientele effect (making policies which should suit the investors) and by respecting the rights of shareholders, managers, employees, creditors and debtors. The lower cost of capital also improves the value of a firm. The financing (dividend and investment) policy of a firm should suit the needs of the investors to assist the implementation of corporate governance and improve the value of the shareholders.

3.8 Conclusion

In this chapter we have examined the models used for hypotheses testing and important factors relevant for the firms of developed and developing financial markets. These factors/variables are used to develop the hypotheses to be tested in this study and play an important role in implementing corporate governance in developed and developing financial markets. In the next chapter, we will present definitions of

the variables, econometric methods and models, data collection methods and the computer programs for formulating and testing the approaches, corporate governance models and hypotheses presented in this chapter.

Chapter 4
Methodology and Econometric Framework

4.1 Introduction

This chapter presents the methodological aspect of this study. It includes the methods used to quantify the variables used in developing the hypotheses. Furthermore, the models used to test relationships between corporate governance and the value of a firm (CGVF) in developing and developed financial markets are also discussed. The econometric tests discussed in this chapter include regression analysis, incremental regression, tests for the complementarities of corporate governance instruments and tests for the variance inflation factor. The chapter is structured as follows. Section 4.2 presents the measurement, conceptualisation and operationalisation of the variables and Section 4.3 discusses the econometric methods used in the study. Section 4.4 deals with additional econometric and statistical tests and Section 4.5 considers the data collection methods. Section 4.6 presents policy formulation and Section 4.7 consists of the conclusion of the chapter.

4.2 Measurement, Conceptualisation and Operationalisation of the Variables

This section presents the measurement, conceptualisation and operationalisation of the variables used in the CGVF models. The treatment given to the variables used in the corporate governance valuation models is also discussed. The variables are adjusted so that the best functional form of these variables is used in the CGVF models. As discussed in Chapter 4, the dependent variable in CGVF models is Tobin's Q while, the independent variables are board size, market capitalisation, procedures (regulatory index), gearing, price to book value ratio, shareholders concentration, CEO duality and return on total assets.

In the current study about the CGVF relationships, gearing ratio, price to book value ratio, shareholders concentration (agency cost) and return on total assets are divided by one hundred. This converts these variables to percentage form to make the relationship linear with Tobin's Q (dependent variable) as argued by Gujarati (1995).

Similarly, variables such as board size, market capitalisation and procedures (regulatory index) are transformed into logarithmic form by taking natural logarithms. The variables are given this adjustment to remove non-linearity in the relationship with Tobin's Q (dependent variable).

In the CGVF model for cross-market analysis, the market capitalisation and cash flow of Malaysian companies are divided by the relative exchange rate for the same years to make the interpretation of the econometric results possible in one currency for developing and developed financial markets.

Furthermore, the data in the current study about the CGVF relationship is also adjusted for missing observations. Missing values were approximated by taking the average of the values adjacent to (before and after) the missing observation and if the first or last observation was missing they were replaced by the second and second to last observations respectively.

Ruhani and Sanda (2001), Yap (2001), Khatri, Leruth and Piesse (2002), Chang and Mansor (2004, 2005) have used the same type of methodology for their research in developing markets. They used panel data for their studies about the CGVF relationship. Durnev and Kim (2002) and Klapper and Love (2002) have also used the panel data for their study of CGVF relationships for developed markets.

The hypotheses discussed in Chapter 3 are operationalised by the variables used in this study. The hypothesis (H1) about the role of regulatory authority in affecting the value of a firm is represented by procedures (regulatory index). The role of majority shareholders in affecting the value of a firm (H2) is represented by agency cost (Ac) and the role of CEO duality in affecting the value of a firm (H3) is represented by Duality. The role of board size in affecting the value of a firm (H4) is represented by Log Size. The role of debt in affecting the value of a firm (H5a and H5b) is represented by gearing ratio (Gr). The choice of variables used in the CGVF models for developing, developed and the cross-market analysis is based on a new conceptual framework, which incorporates the important factors affecting the CGVF relationship in developing and developed financial markets. These variables are presented in tables 4.1, 4.2 and 4.3 respectively.

Table 4.1

Variables Used for the Study of a Developing Market (Malaysia)

Variables	Proxied by	Symbol	Expected sign
Dependent Variable			
Value of a Firm Tobin's Q	Mkt Cap + TA – Sh F/TA	TQ	
Independent Variables			
Return on Total Assets	Return generated by the assets of a firm	Rota	Positive +
Size	Number of directors in the board	Log Size	Negative -
Duality	Dummy variable: Can take values of 0 and 1	Duality	Negative -
Agency Cost	Majority ownership in a firm	Ac	Negative -
Market Capitalisation	Market capitalisation of a firm	Log Mc	Positive +
Price to Book Value Ratio	Price to book value ratio of a firm	Pb	Positive +

Notes: Mkt Cap = Market capitalisation.
TA = Total assets.
Sh F = Shareholders fund.

4.2.1 Gearing Ratio

Gearing is defined as the amount of leverage used in a firm. The variable measures the ability of an organisation to deal with business downturns and implies that a company having a high gearing ratio is more vulnerable to business shocks because it has less ability to service debt.

Gearing ratio shows the relationship between long-term liabilities and shareholders equity and can be used as a powerful tool to implement corporate governance (Williamson, 1988). According to corporate governance principles, shareholders equity should be greater than the long-term liabilities to create value for them. Wild, Subramanyam and Halsey (2003) argue that there is a lower proportion of shareholders equity in the assets of highly leveraged firms.

In the literature on corporate governance and the value of a firm, gearing is widely used as a control variable see for example (Lipton and Lorsch, 1992; Sridharan and Marsinko, 1997; Yildrim, 2000; Leal and Carvalhal-da-Silva, 2005; Kyereboah-Coleman and Biekpe, 2005; Chen, Elder and Hsieh, 2005). The variable is measured as the ratio between debt and equity and the same methodology is used in the current study.

Table 4.2

Variables Used for the Study of a Developed Market (Australia)

Variables	Proxied by	Symbol	Expected sign
Dependent Variable			
Value of a Firm Tobin's Q	Mkt Cap + TA – Sh F/TA	TQ	
Independent Variables			
Market Capitalisation	Market capitalisation of a firm	Log Mc	Positive +
Gearing	Percentage of the debt used to finance the assets of a firm	Gr	Negative -
Size	Number of directors in a board	Log Size	Negative -
Duality	Dummy variable Can take values between 0 and 1	Duality	Negative -
Agency Cost	Majority ownership in a firm	Ac	Negative -
Price to Book Value Ratio	Ratio between the price and book value of assets of a firm	Pb	Positive +

Notes: Mkt Cap = Market capitalisation.
TA = Total assets.
Sh F = Shareholders fund.

Past researchers have reported diverging views about the relationship of debt and the value of a firm. Rajan and Zingales (1995) proved a negative relationship between the profitability of a firm and cash flow. They argued that firms prefer internal generation of funds compared to external financing. Similarly, Novaes and Zingales (1995) and Zweibel (1996) confirmed that higher debt reduces the probability of takeover and gives managers a free hand, which results in deteriorating performance of a firm.

Chang and Mansor (2004) have used gearing as a proxy for long-term borrowing and found a negative relationship with the value of a firm in the developing financial market. On the contrary, Jensen (1986) argued that debt could be used as a powerful instrument to manage the free cash flow and suggested a positive relationship between the value of a firm and gearing. Similarly, Claessens, Djankov and Pohl (1997) proved a positive relationship between leverage and the value of a firm in the developing market.

As discussed in Chapter 2, higher debt is the Edgeworth complement of concentrated shareholding in a developing financial market and creates value for the shareholders. In contrast, higher debt is a substitute of dispersed shareholding in a developed financial market and affects the value of a firm in a negative manner.

Table 4.3

Variables Used for the Study of Cross-market Analysis

Variables	Proxied by	Symbol	Expected sign
Dependent Variable			
Value of a Firm Tobin' s Q	Mkt Cap + TA – Sh F/TA	TQ	
Independent Variables			
Return on Total Assets	Return generated by all the assets of a firm	Rota	Positive +
Gearing	Percentage of the debt used to finance the firm	Gr	Negative -
Size	Number of directors in the board	Log Size	Negative -
Duality	Dummy variable: Can take the values between 1 and 0	Duality	Negative -
Price to Book Value Ratio	Ratio between the price and book value of the assets of a firm	Pb	Positive +
Regulatory Index	Procedures involved in the settlement of the disputes	Log Pro	Negative -

Notes: Mkt Cap = Market capitalisation.
TA = Total assets.
Sh f = Shareholders fund.

4.2.2 Board Size

Board size refers to the number of directors on the board and is an important variable in the study of the CGVF relationship. The variable is widely used in the literature of corporate governance and its value is found by counting the number of directors in a firm as argued by Pfeffer (1972) and Chaganti, Mahajan and Sharma (1985). The same methodology is used to construct the variable in the current study.

The relationship between the board size and the value of a firm varies from positive to negative. Kyereboah-Coleman and Biekpe (2005) conclude a positive relationship between the value of a firm and board size. On the contrary, Yermack (1996), Eisenberg, Sundgren and Wells (1998) and Loderer and Peyer (2002) report a negative relationship between board size and the value of a firm because of the agency cost of a board.

As mentioned in Chapter 3, we argue a negative relationship between the larger board and the value of a firm in developing and developed financial markets as we support the agency theory in these markets.

4.2.3 Concentrated Ownership

Concentrated shareholding is usually represented by a dummy variable in the studies on the CGVF relationship (Klapper and Love, 2002; Gompers, Ishii and Metric, 2003). Previous studies were unable to capture the effect of a small change in ownership on the value of a firm. The current study will overcome the previous problem as the actual ownership is used to test the relationship with the value of a firm.

The literature reports that the role of majority shareholders in creating the value of a firm ranges from positive to negative. Kaplan and Minton (1994) found a positive relationship between concentrated shareholding and the value of a firm. They proved that blockholders create value for shareholders in developing financial markets. On the contrary, Demsetz and Lehn (1985), Klapper and Love (2002) and Gompers, Ishii and Metric (2003) argue that large shareholders exploit minority shareholders in developing markets. The regulatory authorities are weak in developing markets and improvement in the internal corporate governance mechanism in firms can improve their performance to a higher degree compared to firms in a developed market.

We also support a negative relationship between the value of a firm and the role of majority shareholders in developed and developing financial markets.

4.2.4 Tobin's Q

Tobin's Q serves as a proxy for company performance in a financial market. A value of Tobin's Q greater than one shows that a company creates value for its shareholders. On the contrary, a value of the variable lower than one shows that the firm does not perform well. A well-performing firm is likely to add value to the shareholders. Tobin's Q is used as a dependent variable in the studies about the CGVF relationship by Agrawal and Knoeber (1996), Claessens, Djankov and Pohl (1997), Loderer and Peyer (2002) and Beiner and Schmid (2005) in developing and developed financial markets.

Different researchers in the literature calculate the proxy for Tobin's Q in different

ways. For example, Capulong et al. (2000) use the ratio between market value of equity and debt to the replacement cost of assets as the proxy for Tobin's Q in the developing market. On the contrary, Klapper and Love (2002) calculate Tobin's Q by taking the ratio of market value of equity and total assets with total assets of a firm. Similarly, Gompers, Ishii and Metric (2003) use the proxy for Tobin's Q as a ratio between market value of assets to the book value of assets in the developing market. The market value of assets is calculated by adding the market value of equity and book value of debt.

The proxy for Tobin's Q in the current study is calculated by first adding market capitalisation and total assets, and then subtracting shareholders funds. The final value is obtained by dividing the numerator by total assets. By using this proxy we will correctly evaluate the performance of firms in developing and developed markets.

4.2.5 CEO Duality

CEO duality is widely used as a dummy variable in the literature about corporate governance and the value of a firm (Daily and Dalton, 1994, 1995). In the current study, CEO duality is also represented by a dummy variable. According to Cuthbertson (1996), dummy variables have a value of 0 or 1. The value of the variable is 1 if a single person plays both the roles, and is 0 if the role is separated.

Kyereboah-Coleman and Biekpe (2005) proved that CEO duality is negatively related to the performance of a firm in the developing market. The division of role of CEO and Chairman is important as it enables the board to carry out its duties more effectively. Similarly, in the current study, we support a negative relationship of CEO duality with the value of a firm in developing and developed financial markets.

4.2.6 Rule of Law

Rule of law in the market is analysed by capturing the efficiency of the regulatory authority and judiciary in the CGVF literature. Black, Jang and Kim (2003) and Gompers, Ishii and Metric (2003) have used a dummy variable for efficiency of the regulatory regime in developing and developed financial markets and tested its

relationship with the value of a firm. On the contrary, Klapper and Love (2002) used a judicial efficiency index to establish the relationship with the value of a firm and found that more procedures in settlement of disputes (weak regulatory regime) are negatively related to the value of a firm.

In the current study, we have constructed the variable by taking into account the time and cost involved in the settlement of disputes. The measure is representative of the efficiency of the regulatory authority and we support a positive relationship between the value of a firm and the efficiency of the regulatory authority in developed and developing financial markets.

4.2.7 Return on Total Assets

Return on total assets is used to gauge the profitability and efficiency of converting assets into value for shareholders. Return on total assets shows the performance of the assets of a firm as it reflects the efficiency of assets in generating returns and earnings. We support a positive relationship between the value of a firm and the return on total assets, as a higher ratio is associated with a higher rate of return and better corporate governance.

The variable is widely used on the literature on corporate governance and the value of a firm for developing and developed financial markets as Yildrim (2000), Kyereboah-Coleman and Biekpe (2005) and Beiner and Schmid (2005) have used return on total assets in their study for developing and developed financial markets.

4.2.8 Price to Book Value Ratio

Price to book value ratio shows the performance of a firm and correct valuation of its securities. It is calculated by dividing the current closing price of a share by its book value. A lower price to book value ratio gives a negative signal to investors and is not good for the value of shareholders.

Conversely, a higher price to book value ratio shows that stock is correctly valued and markets are efficient in reflecting the true information. It is also an image of well

functioning assets and shows that proper return is given to the shareholders for their investment. The variable is also used in the studies of corporate governance (Leal and Carvalhal-da-Silva, 2005) and we support a positive relationship between the value of a firm and price to book value ratio.

4.2.9 Market Capitalisation

Market capitalisation measures the percentage of market captured by the securities of a firm. Market capitalisation can be calculated by multiplying the share price with the number of outstanding shares. Higher market capitalisation is a reflection of higher investor confidence. Investment in firms with higher market capitalisation is quite safe compared to firms with lower market capitalisation because the shares of a firm having higher market capitalisation are more liquid.

In contrast, the companies having lower market capitalisation are sometimes more profitable because of a higher growth potential. The shares of a company having lower market capitalisation are more risky, but they can have higher financial returns.

Market capitalisation is widely used in the literature on corporate governance. Black (2001) and Black, Love and Rachinsky (2006) used market capitalisation in studies conducted on the firms in a developing market. Hartzell, Kallberg and Liu (2003) used the variable in their study about corporate governance and found a positive relationship with the value of a firm after the initial public offering. We support the above positive relationship between the value of a firm and its market capitalisation in developing and developed financial markets because together with the above studies there is empirical evidence and general consensus in the literature that good corporate governance improves the value of the firm.

4.3 Econometric Testing

Regression will be used as a tool for hypotheses testing and to reveal the relationship between corporate governance instruments, control variables and firms performance based on the new conceptual framework. The regression will specify the relationship among the dependent variable, independent variables and control variables used in

this study. The general representation of the model is given in the equation below:

$$Y_t = C + \beta_{1t} X_{1t} + \beta_{2t} X_{2t} + \ldots\ldots\ldots + \beta_{nt} X_{nt} + U_t \quad (4.1)$$

where:

Y_t = dependent variable (Tobin's Q);

C = intercept;

β_t = slope of the independent variables (internal, external and control variables);

X_t = independent variables; and

U_t = error term (Mills, 1999).

The ordinary least square (OLS) estimation will be used to diminish the residuals of the CGVF models for the current study. OLS estimation minimises the residual of the model and enables the sample regression function to explain the maximum portion of the population regression function (Cuthbertson, 1996).

The estimated equation for the CGVF model for developing and developed financial markets is as follows:

$$Y_t = \hat{C} + \hat{\beta}_{1t} X_{1t} + \hat{\beta}_{2t} X_{2t} + \ldots\ldots\ldots\ldots + \hat{\beta}_{nt} X_{nt} \quad (4.2)$$

where:

$\hat{C}$ = intercept of the model;

$\hat{\beta}_t$ = coefficients and slope of the estimators of independent variables (internal, external and control variables);

Y_t = estimator of the dependent variable (Tobin's Q);

X_t = estimators of the independent variables in the model.

The derivation of $\hat{\beta}$ is discussed as follows.

For econometric estimation, the CGVF model for T observations can be specified as follows:

$$Y = X\beta + e \tag{4.3}$$

Definition of the variables and parameters are:

- Y = a vector of a dependent variable;
- X = (TxK) matrix of explanatory variables;
- β = (Kx1) unknown (to be estimated) matrix of parameters; and
- e = (1xT) unobservable random error vector.

In the Classical Least Squared Method, it is assumed that the random errors have zero mean:

$$E(e) = 0 \tag{4.4}$$

and a constant variance:

$$E(e'e) = \sigma^2 I_T \tag{4.5}$$

The econometric estimation by the CGVF model involves the estimation of β by minimising the following squared errors:

$$M = (Y - X\beta)`(Y - X\beta) \tag{4.6}$$

When X has K rank and X`X is non-singular, the minimisation method generate the vector of estimated β which is shown as follows:

$$\hat{\beta} = (X'X)^{-1} XY \tag{4.7}$$

The functional forms widely chosen in the financial econometrics studies are the following:

$$\log y = \alpha + \beta \log x \tag{4.8}$$

$$y = \alpha + \beta x \tag{4.9}$$

$$y = \alpha + \frac{\beta}{x} \tag{4.10}$$

$$\log y = \alpha + \frac{\beta}{x} \tag{4.11}$$

$$y = \alpha + \beta \log x \tag{4.12}$$

Equation 4.8 represents the double log function. Equation 4.9 shows the linear function and Equation 4.10 represents the inverse function. Similarly, Equation 4.11 denotes the log inverse function. Finally, Equation 4.12 represents the lin-log function.

In the present study we have tried different functional forms of corporate governance variables and the functional form with the best fit to data is used. The model used to test the relationship between corporate governance and the value of a firm for developed (Australia) market is as follows:

$$\text{Tobin's Q} = f(\text{Log Size, Duality, Gr, Log Mc, Pb, Ac}) \tag{4.13}$$

The general representation of the equation above is as follows.

$$Y_t = C + \beta_{1t} \log X_{1t} + \beta_{2t} X_{2t} + \beta_{3t} X_{3t} + \beta_{4t} \log X_{4t} + \beta_{5t} X_{5t} + \beta_{6t} X_{6t} + U_t \tag{4.14}$$

where: Y_t = dependent variable;

C = intercept;

β_t = slope of the independent variables;

X_t = independent variables (size, CEO duality, gearing, market capitalisation, price to book value ratio, and shareholders concentration (Ac);

t = periods;

U_t = error term;

β_1 = coefficient of board size;

β_2 = coefficient of CEO duality;

β_3 = coefficient of gearing;

β_4 = coefficient of market capitalisation;

β_5 = coefficient of price to book value ratio; and

β_6 = coefficient of agency cost.

In the above model, the sign of β_1 is expected to be negative as we argue a negative relationship between the value of a firm and the larger board. Similarly, β_2 is also expected to have a negative relationship as CEO duality deteriorates the value of a firm. β_3 is expected to have a negative sign as the literature suggests that higher debt creates a negative value for the shareholders in the developed market.

In contrast, β_4 is expected to be positive as higher market capitalisation is expected to have a positive relationship with the value of a firm. Similarly, β_5 is expected to be positive as the price to book value ratio is expected to have a positive relationship with the value of a firm. Finally, β_6 is expected to be negative as majority shareholders are expected to deteriorate the value of a firm in developed financial markets.

The second multifactor corporate governance model used in the current study is for Malaysian (developing) market and is as follows:

$$\text{Tobin's Q} = f(\text{Log Size, Ac, Duality, Pb, Rota, Log Mc}) \quad (4.15)$$

The equation represents the relationship between corporate governance instruments, control variables and the value of a firm. The general representation of the model is as follows:

$$Y_t = C + \beta_{1t} \log X_{1t} + \beta_{2t} X_{2t} + \beta_{3t} X_{3t} + \beta_{4t} X_{4t} + \beta_{5t} X_{5t} + \beta_{6t} \log X_{6t} + U_t \quad (4.16)$$

where: Y_t (regrassand) = dependent variable;

C = intercept;

β_t (β_1 - β_6) = slope of the independent variables;

X_t (regressor) = independent variables;

t = periods;

U_t = error term;

β_1 = coefficient of board size;

β_2 = coefficient of agency cost;

β_3 = coefficient of CEO duality;

β_4 = coefficient of price to book value ratio;

β_5 = coefficient of return on total assets; and

β_6 = coefficient of market capitalisation.

The sign of β_1 is expected to be negative as the literature suggests a negative relationship between the value of a firm and the bigger board. β_2 is expected to be negative as majority shareholders are expected to harm the value of a firm in the developing financial market. Similarly, β_3 being the coefficient of CEO duality, is also expected to have a negative relationship with the value of a firm.

In contrast, β_4, β_5 and β_6 are expected to be positive as price to book value ratio, return on total assets and market capitalisation are expected to have a positive relationship with the value of a firm in developing financial markets.

The cross-market model for developing and developed financial markets is as follows:

Tobin's Q = f (Duality, Gr, Log Pro, Pb, Rota, Log Size) (4.17)

The model shows the relationship between the value of a firm, corporate governance instruments and control variables for developing and developed financial markets.

The general representation of the model of the cross-market analysis is follows:

$$Y_t = C + \beta_{1t} X_{1t} + \beta_{2t} X_{2t} + \beta_{3t} \log X_{3t} + \beta_{4t} X_{4t} + \beta_{5t} X_{5t} + \beta_{6t} \log X_{6t} + U_t \quad (4.18)$$

where: Y_t (regrassand) = dependent variable;

C = intercept;

β_t (β_1 - β_6) = slope of the independent variables;

X_t (regressor) = independent variables (CEO duality, gearing, procedures, price to book value ratio, return on total assets and board size);

t = periods;

U_t = error term;

β_1 = coefficient of CEO duality;

β_2 = coefficient of gearing;

β_3 = coefficient of procedures (regulatory index);

β_4 = coefficient of price to book value ratio;

β_5 = coefficient of return on total assets; and

β_6 = coefficient of board size.

The sign of β_1 is expected to be negative as the literature suggests a negative relationship between the value of a firm and CEO duality in the developing and developed financial markets.

Similarly, β_2 is expected to be negative in the developed market as gearing is expected to have a negative relationship with the value of a firm in the developed financial market. In contrast, β_2 is expected to be positive in the developing market as gearing is expected to have a positive relationship with the value of a firm in this market.

β_3 is the coefficient for the procedures (regulatory index). The higher procedures (less corporate governance) are expected to have a negative relationship with the value of a firm. On the contrary, β_4, β_5 are expected to be positive as price to book value ratio and return on total assets are expected to have a positive relationship with the value of a firm in developing and developed financial markets. Finally, the sign of β_6 is expected to be negative as literature of CGVF suggests a negative relationship between the value of a firm and the bigger board in these markets.

4.3.1 Diagnostics Statistics

The R squared values in the econometric model explain the percentage of the dependent variables explained by the independent variables (goodness of fit). R squared lies between the values of 0 and 1 (Campbell, Lo and MacKinlay, 1997). Thus in our case, the value of R squared closer to one shows that market capitalisation, return on total assets, price to book value ratio, gearing ratio, shareholders concentration, CEO duality, board size and procedures involved in enforcing the contract, explain most of the variation in the value of a firm.

The t test will be used to check the significance of individual parameters (hypotheses) in the regression relevant for the study. These individual hypotheses are related to the relationship between market capitalisation, return on total assets, price to book value ratio, gearing ratio, shareholders concentration, CEO duality, board size and procedures involved in enforcing the contract with the value of a firm.

Furthermore, the f test will make the partial slopes of coefficient equal to zero and will check the significance of all the parameters (hypotheses) in the model. The significant f statistic will show a relationship between the dependent variable (value of a firm) and independent variables mentioned above.

The relationship between the dependent and independent variables will be tested by accepting or rejecting the alternative hypothesis. In this study, the alternative hypothesis will be tested against the null hypothesis, which suggests a lack of relationship between the value of a firm and corporate governance instruments in developing and developed financial markets.

The t and f statistics in the CGVF models will only give us the correct results if the model follows the classic linear regression assumptions (Gujarati, 1995). These assumptions are as follows:

1) the error terms have a constant variance in all the observations in the CGVF;
2) there is a lack of a relationship between the regressors of the CGVF models in the study;

3) the explanatory variables in the model for the CGVF must take a fixed value in the repeated samples;
4) there is a linear relationship between dependent and independent variables, and the error term of the CGVF models;
5) the expected value of the error term is zero for all the observations in the CGVF model; and
6) the error terms are independent of each other in different observations in the CGVF models.

In case of the violation of the classic linear regression assumptions, the following problems will arise.

Multicollinearity

According to Cuthbertson (1996), multicollinearity takes place in the model when the independent variables are related to each other. Multicollinearity will arise in the CGVF models if the independent variables (market capitalisation, return on total assets, price to book value ratio, gearing ratio, CEO duality, board size, shareholders concentration and procedures involved in enforcing the contract) of the models in the current study are related to each other. Multicollinearity will be detected when the model has a high R squared, but insignificant t ratios of the above-mentioned variables.

The high standard errors of the variables will also be a sign of high collinearity. In contrast, indeterminate coefficients with large standard errors will show a perfect collinearity in all the above-mentioned variables (Gujarati, 1995).

The tolerance factor and variance inflation factor of each corporate governance variable in all the CGVF models in developing and developed financial markets will be calculated to detect multicollinearity. The value of the variance inflation factor greater than 10 and the tolerance factor closer to 0 will show the presence of multicollinearity in the CGVF models.

The variance inflation factor (VIF) will be calculated by making all the independent

variables (board size, shareholders concentration, CEO duality, market capitalisation, price to book value ratio, gearing ratio, return on total assets and procedures) the dependent variable and calculating R squared. R squared will be substituted in the formula below to get the final value.

The formula below is used to calculate the variance inflation factor:

$$VIF = 1 / 1 - R^2 \quad (4.19)$$

The tolerance factor in the CGVF models will be calculated by making all the above-mentioned variables as the dependent variable and calculating R squared. Finally, the R squared will be subtracted from one to get the value for the tolerance factor.

The formula below is used to calculate the tolerance factor:

$$TF = 1 - R^2 \quad (4.20)$$

The variables of the CGVF models having multicollinearity will be exchanged with new variables to solve the problem.

Autocorrelation

The relation of the error term of the CGVF models U_t in the first time period will be checked with the error term of the model in the next time period to detect autocorrelation with in the model.

The problem of autocorrelation will emerge in the CGVF models if the error terms of the models for two different time periods are related to each other. The estimators of the model will be inefficient in the presence of autocorrelation, but remain consistent and unbiased. In addition, the econometric results of the hypotheses relevant to the CGVF will not be robust in the presence of autocorrelation.

The Durbin Watson test will be used to detect autocorrelation in the CGVF model. A value of Durbin Watson statistic lower or higher than 2 will show the presence of

autocorrelation. In the case of a lower or higher value, we will take standard remedial measures to remove the autocorrelation from the CGVF model.

Heteroscedasticity

The variance of the error term of CGVF models will also be observed. The variable variance will lead us to the problem of heteroscedasticity. The estimators of the model in this case will be inefficient, but will remain unbiased and consistent making the results of study unreliable.

White diagonal measure will be used to remove the heteroscedasticity in the CGVF models. This treatment will be used to correct the variance of the error term of the model as we will divide the error term with its variance. The estimation will be different from OLS estimation because we will minimise the weighted sum of residual squares. The method is known as generalized least square (GLS) estimation and will enable us to get a reliable result about the acceptance and rejection of hypotheses relevant for the CGVF models.

4.4 Other Econometric and Statistical Tests

Additional econometric and statistical tests in this study include factor analysis, tests for incremental regression, tests for endogeneity, tests for complementarities of corporate governance instruments for developing and developed financial markets and descriptive statistics for the study. These tests are discussed as follows.

4.4.1 Factor Analysis

In the current study about the relationship between the value of a firm and corporate governance, the correlation of the important variables in the models for developing and developed financial markets will be analysed using factor analysis. The variable having the highest correlation with the dependent variable (Tobin’s Q) will also be highlighted.

4.4.2 Incremental Regressions

As discussed in Chapter 3, incremental regression revealing the importance of an individual variable in affecting the value of a firm will be performed by removing the individual variables from the model and capturing the effect on the R squared. These tests will highlight the importance of individual variables in affecting the dependent variable (Tobin's Q) in the CGVF models.

4.4.3 Endogeneity Tests

According to Bhagat and Jefferis (2002), corporate governance instruments affect the value of a firm. Conversely, the value of a firm can affect different corporate governance instruments. Demsetz and Lehn (1985) also argue that ownership concentration can be determined by the characteristics of a firm as majority shareholders affect the value of a firm and the value of a firm can also affect the composition of shareholding.

Similarly, Bhagat and Black (2002) argue that ownership structure could be endogenous as superior stock performance leads to more shares being held by the management and blockholders. The higher performance of the firm triggers the prices of options and shares held by management and shareholders. The shareholding can affect the value of a firm as they have incentive to monitor and can decrease information asymmetry by aligning their interests with the shareholders. The decrease in the information asymmetry leads to an improvement in the value of a firm.

The literature on the corporate governance suggests that the relationship between corporate governance and the value of a firm is affected by the endogeneity among the corporate goverance variables. Larcker, Richardson and Tuna (2004) find a weak relationship between the value of a firm and corporate governance. Similarly, Bauer, Gunster and Otten (2003) do not find any relationship between the value of a firm and corporate governance variables. They argue that lack of a significant relationship between these variables is due to endogeneity and selection bias among the variables.

The endogeneity in regression makes the coefficient of variables inefficient and unreliable affecting the robustness of the result of the hypotheses. The endogeneity among the variables in this study will be tested and suitable treatment will be given to solve this problem.

4.4.4 Tests for Complementarities of Corporate Governance Instruments

As discussed in Chapter 3, tests for the complementarities of corporate governance instruments in affecting the value of a firm will be conducted in this study. In the individual models for developing and developed financial markets, the complementarities between both internal corporate governance instruments (board size and CEO duality) will be tested. In contrast, the tests of complementarities of both internal (board size and CEO duality) and the external corporate governance mechanism (procedures) will be performed in the CGVF model for cross-market analysis.

Suggested Relationship among the Edgeworth Complements

As mentioned in Chapter 3, we support the internal corporate governance mechanism (board size and CEO duality) to be the Edgeworth complement of the external corporate governance mechanism (procedures). Similarly, we support the external corporate governance mechanism (procedures) to be the Edgeworth complement of the internal corporate governance mechanisms (board size and CEO duality) in developing and developed financial markets. We also support the internal corporate governance mechanisms to be the Edgeworth complement of each other.

The results concerning the complementarities of corporate governance instruments will allow us to make a value maximisation policy for shareholders in developing and developed financial markets.

4.4.5 Descriptive Statistics

As discussed in Chapter 3, descriptive statistics will be used to analyse the basic features of the data in this study. An analysis of individual corporate governance

variables is also performed to examine the variables relevant for corporate governance and the value of a firm on an individual basis. The descriptive statistics used in this study consist of mean to show central tendency, and maximum and minimum values of the relevant variables to show the range.

The mean of the variables in this study will be calculated to compare the central tendencies of the variables of developing and developed financial markets and is calculated as follows:

$$\bar{X} = \frac{1}{n}.\sum_{i=1}^{n} X_i \qquad (4.21)$$

where: n = number of the observations; and

$\sum_{i=1}^{n} X_i$ = summation of all the observations.

The maximum value will be used to compare the highest value of the variable in developing and developed financial markets. In contrast, the minimum value will be used to compare the lowest value of the variable in these financial markets.

In the case of the firms of developing market, a higher number of dual firms, and higher mean values of board size and gearing are expected. In contrast, higher mean values of the market capitalisation, return on total assets and Tobin's Q are expected in case of firms in a developed market.

Computer Programs Used in the Current Study

A statistical package, E-views, will be used to calculate the results for the factor analysis and descriptive statistics for the CGVF models for developing and developed financial markets. Multiple regressions, tests of complementarities, tests for endogeneity, and incremental regressions will be performed with the help of Eviews software.

4.5 Data Collection Methods

The section discusses the different types of data collection methods and the sample size used to conduct this study. The current study about the role of corporate governance in affecting the value of a firm is based on the markets of Malaysia and Australia. The data is collected for companies listed on the Kuala-Lumpur Stock Exchange (KLSE) and Australian Stock Exchange (ASX). The latter represents the developed market and former represents the developing financial market. Sixty companies from each market (developing and developed) were selected from all the sectors of the economy for analysis about the role of corporate governance in affecting the value of a firm.

4.5.1 Sampling

Sampling is a statistical technique used to select an adequate number of samples from the population. The samples were selected from the two developing and developed markets on a random basis and the properties of all the companies concerning CGVF were obtained by generalising from the data present as properties of the sample companies. The study adapted a stratified random sampling design, which involved the process of segregation of firms followed by their random selection from each sector of the market as conducted by Tam and Tan (2007).

4.5.2 Types of Data Collection

A secondary method of data collection was used where the information required was obtained from the websites of different stock exchanges, World Bank, International Monetary Fund (IMF), Organisation for Economic Co-operation and Development (OECD), company profiles and other corporate governance websites. The books published by different stock exchanges were also used to confirm the data statistics about different firms.

Data regarding the internal corporate governance mechanism such as Chairman and Chief Executive Officer duality, board size, gearing ratio and shareholders concentration in a firm were collected from the books of the stock exchanges. The

data regarding the financial variables such as return on total assets, price to book value ratio and market capitalisation was obtained from the OSIRIS database and was crosschecked against the books of the stock exchanges. In contrast, the data for the external corporate governance mechanism (regulatory index) in developing and developed markets was obtained from the World Bank and IMF websites. Finally, the data about the Tobin's Q was collected from the books published by the stock exchanges of developing and developed financial markets.

4.5.3 Panel Data

Panel data sets analysis uses sequential blocks or cross-sections of data where within each resides a time series. Panel data in this study has two dimensions spatial and temporal. The spatial dimension in panel data is a composite of the cross-section dimension (Mills, 1999) and in the current study consists of Australian and Malaysian companies. On the contrary, the temporal dimension in the study uses a number of observations of each variable for each year. Data for 2000-2003 was collected for current study so it covers the time span of four years.

As discussed in Section 4.4, the econometric results are based on dynamic panel data and Eviews software was used to perform the econometric tests. Heteroscedasticity or specification errors were removed from panel data by the white diagonal method (White, 1980). Furthermore, multicollinearity from the CGVF models was removed by replacing problem variables with new variables in the model (Mills, 1999). Finally, autocorrelation in this type of data was removed by taking remedial measure of autoregressive treatment. The endogeneity was also removed from the CGVF models to get reliable results with hypotheses testing.

4.6 Policy Formulation for Developing and Developed Financial Markets

Policy implications were based on the results of this research. This research was aimed at formulating a variety of policies derived from the results of the corporate governance models in order to improve the performance of firms in developing and developed financial markets. The following policies were derived from the study:

1) corporate governance policy;
2) corporate financing policy; and
3) policy regarding the role of a firm in improving the value of the shareholder in developing and developed financial markets.

4.7 Conclusion

The current chapter has discussed the variables used for the construction of the hypotheses about corporate governance models. In addition, the econometric analysis used for hypothesis testing and role of the variables in relation to corporate governance is highlighted. The tests for substitutes and complements, incremental tests for the importance of individual variables in affecting the value of a firm and the computer programs used are presented. The chapter also discusses the method used for the data collection. In the next chapter, we will examine the important corporate governance variables and models for developing and developed markets on the basis of the econometric results obtained by applying the methods discussed in this chapter.

Chapter 5
Econometric Results and Discussion

5.1 Introduction

This chapter details the results of the research and analyses the information and statistical methods applied to the sample data. The relationship of corporate governance instruments and control variables with the value of a firm is discussed in detail. The discussion about the tests of complementarities of corporate governance instruments in affecting the value of a firm and incremental tests for the importance of each variable in the corporate governance model is also carried out. In addition, econometric treatment for multicollinearity, autocorrelation and heteroscedasticity are presented.

The structure of the chapter is as follows. Section 5.2 reports the descriptive statistics. Section 5.3 reports the results of factor analysis for developing and developed financial markets. Section 5.4 presents the multiple regression analyses for developing and developed financial markets. Sections 5.5, 5.6 and 5.7 report the results of corporate governance and the value of a firm for developed, developing and cross-market analysis. Section 5.8 deals with the tests for incremental regression for the developed, developing and cross-market analysis. Sections 5.9 and 5.10 explain the tests of the complementarities of the internal and external corporate governance mechanisms in developing, developed and cross-market analysis. In addition, Section 5.11 deals with the test for social value of a firm and Section 5.12 is about the robustness tests of the study. Section 5.13 considers the nature of the relationship of corporate governance and the value of a firm. Finally, Section 5.14 concludes the chapter.

5.2 Descriptive Statistics for Developing and Developed Financial Markets

As discussed in Chapter 4, the descriptive statistics for the independent and dependent variables are calculated to ascertain the general characteristics of the firms in

developing (Malaysia) and developed (Australia) markets. The descriptive statistics are presented in tables 5.1 and 5.2 and the summary is as below.

Table 5.1

Descriptive Statistics for the Developing Market (Malaysia)

Variables	No.	Minimum	Maximum	Mean	Std. Deviation
PM	240	-209.93	98.30	7.99	25.41
ROTA	240	-57.56	54.99	4.79	9.05
PB	240	0.29	8.32	1.15	0.90
CF	240	-0.83	1.71	0.18	0.25
MC	240	12.00	11692.00	439.19	1248.99
CR	240	0.21	17.97	2.57	2.08
GR	240	-2.57	733.17	35.47	63.77
CEO Duality	240	0.00	1.00	0.26	0.44
Board Size	240	5.00	12.00	8.05	1.71
AC	240	4.90	62.40	34.61	13.86
TQ	240	0.37	3.96	1.03	0.46

Table 5.2

Descriptive Statistics for the Developed Market (Australia)

Variables	No.	Minimum	Maximum	Mean	Std. Deviation
PM	240	-76.56	598.04	18.48	53.0
ROTA	240	-35.43	85.67	8.80	9.91
PB	240	0.27	36.90	2.48	4.12
CF	240	-1.32	7.20	0.55	0.72
MC	240	10.00	43532.00	2207.34	5317.42
CR	240	0.03	17.69	1.68	1.44
GR	240	0.95	434.31	59.82	57.64
CEO Duality	240	0.00	1.00	0.06	0.24
Board Size	240	2.00	15.00	7.08	2.53
AC	240	0.10	75.70	22.80	18.07
TQ	240	0.40	21.03	1.81	2.38

1) Return on Total Assets

The minimum value for return on total assets for firms of the developing market is -57.56 and the maximum value is 54.99. The mean for return on total assets is 4.79. This contrasts with a minimum value of return on total assets for firms of the developed market equals to –35.43 and maximum value 85.67. The mean for return on total assets for firms of the developed market is 8.80.

After comparing the descriptive statistics of developing and developed financial markets, it is clear that mean, maximum and minimum values of return on total assets for firms of the developed market are conspicuously higher than for firms of the developing market. The descriptive statistics show that firms of the developed market generate significantly more returns compared to the firms of the developing market and were healthier in selected years. Return on total assets is a control variable used in the models and the descriptive statistics show that firms of the developed market follow corporate governance practices and create higher returns for the shareholders in this market.

2) Price to Book Value Ratio

The minimum value of price to book value ratio for firms of the developing market is 0.29 and maximum value is 8.32. The mean for price to book value ratio is 1.15. This compares with a minimum value of price to book value ratio in firms of the developed market equal to 0.27 and maximum value 36.90. The mean for price to book value ratio for firms of the developed market is 2.48.

The descriptive statistics show that the developed market is willing to pay a higher benefit for the firms operating in this market. The firms of the developed market follow corporate governance practices and create higher value for shareholders than the firms of the developing market.

3) Market Capitalisation

The minimum value of market capitalisation for firms of the developing market is 12.0 and maximum value is 11692.0. The mean is 439.19 for firms of the developed market, the minimum observation for the market capitalisation is 10.0 and the maximum value is 43532.0. The mean is 2207. 34.

The descriptive statistics show that firms of the developed market have a higher market share compared to the firms of the developing market. Furthermore, the firms of the developed market enjoy more confidence and are recipient of a higher level of investment, as shown by the value of market capitalisation.

4) Gearing Ratio

The minimum value of gearing ratio for firms of the developing market –2.57 and maximum value is 733.17. The mean is 35.47. The minimum value of gearing ratio in firms of the developed market is 0.95 and maximum value is 434.31. The mean is 59.82.

The mean value of gearing ratio shows that firms of the developed market are more leveraged compared to the firms of the developing market. Therefore, the argument by Heinrich (2002) that dispersed shareholding is the Edgeworth complement to less debt is not supported.

5) Board Size

The minimum value for board size for firms of the developing market is 5.00 and maximum value is 12.00. The mean for board size for firms of the developing market is 8.05. This compares to a minimum value for board size for firms of the developed market of 2.00, and maximum value of 15.0. The mean for board size for firms of the developed market is 7.08.

The descriptive statistics for the firms of developing and developed market show that average board size for firms of the developing market (Malaysia) is higher compared to the firms of the developed market (Australia). Although, the board size for firms of the developed market varies to a higher degree compared to firms of the developing market, the mean value of the variable adds credence to the findings by Jensen (1993) and Kyereboah-Coleman and Biekpe (2005) suggesting the optimal number of board members is seven or eight.

6) Ownership Concentration (agency cost)

The minimum value of ownership concentration (agency cost) for firms of the developing market (Malaysia) is 4.90 and the maximum value is 62.40. The mean for ownership concentration (agency cost) is 34.61. However, minimum value of ownership concentration (agency cost) in firms of the developed market (Australia) is

0.10 and maximum value 75.70. The mean for ownership concentration (agency cost) for the firms of the developed market is 22.80.

On average, the firms of the developing market have a higher shareholder concentration (agency cost) compared to the firms of the developed market. The shareholders concentration fluctuates to a higher magnitude in firms of the developed market as compared to firms of the developing market. The descriptive statistics do not clarify the nature of shareholding (pyramidal, cross-shareholding and family ownership) in firms of the developing and developed markets.

7) Tobin's Q

The minimum value for Tobin's Q for firms of the developing market is 0.37 and maximum value is 3.96. The mean is 1.03. In contrast, the minimum value of Tobin's Q for firms of the developed market is 0.40 and maximum value is 21.03. The mean for Tobin's Q for firms of the developed market is 1.81.

The Tobin's Q of the firms in developing and developed markets shows that firms of the developed market are healthier and create more value for shareholders in this market.

5.3 Factor Analysis of the Variables in CGVF Models for Developing and Developed Financial Markets

The results of the factor analysis (correlation analysis) are reported in Table 5.3. Factor analysis is performed to examine the loading of each variable on the other variables in CGVF models. It is also used to explore the contribution of each variable and the percentage of correlation among the variables of these models.

We find that the correlation between price to book value ratio and Tobin's Q is very high compared to the correlation between all other variables and with a coefficient of 0.87 is approximately double than other correlated variables. On the contrary, the lowest strength of the correlation is between price to book value ratio and return on total assets and is 0.33.

Table 5.3

Factor Analysis: Results about the Highly Correlated Variables in all the Models

Variables of Cross-market Analysis	Correlation Coefficient
PB and ROTA	0.33
TQ and AC	0.35
TQ and PB	0.87
MC and CF	0.49
AC and Log Pro	0.34

5.4 Multiple Regression Analyses for CGVF Models for the Developed and Developing Financial Markets

The regression analysis for the individual models is based on the dependent variable, internal corporate governance instruments and control variables. However, the external corporate governance mechanism is also incorporated in cross-market analysis in addition to the internal corporate governance mechanism and control variables.

As discussed in Chapter 3, the value of a company (proxy for Tobin's Q) is the dependent variable used in this study. The independent variables in the current study are board size, shareholder concentration, price to book value ratio, market capitalisation, return on total assets, CEO duality, gearing ratio and procedures involved in the enforcement of a contract.

Multiple regression analyses are performed to test the hypotheses for all the models of the study (developing, developed and cross-market analysis). Models with the alternate specifications and functional forms are tried, and diagnostics of all the models are analysed. The results in Appendix 7 show a lack of linear relationship between the value of a firm and market capitalisation in the models for developed and developing financial markets. Market capitalisation is transformed into a non-linear form by taking the natural logarithm. This adjustment brings the coefficients of market capitalisation in line with the other variables and also removes the potential disturbance of the OLS assumptions.

As mentioned in Chapter 4, board size is transformed into a non-linear form by taking the natural logarithm in all the models. In the cross-market analysis, procedures (regulatory index) is also transformed into a non-linear form to bring the coefficients in line with the other variables. The adjustment is similar to the treatment given by Sridharan and Marsinko (1997), Kyereboah-Coleman and Biekpe (2005) and Chen, Elder and Hsieh (2005) in their studies about corporate governance and the value of a firm.

The variables such as gearing ratio, price to book value ratio, return on total assets and shareholders concentration (agency cost) are transformed into the percentage form to bring the coefficients in proportion with the other variables. The best model for each market is selected by including the relevant control variable for that market and by analysing the diagnostics of each model.

5.5 Econometric Model for the Developed Financial Market (Australia)

The disturbances of the OLS assumptions have resulted in the variable variance of the error term of the CGVF model for the developed market. The variance of the error term (heteroscedasticity) in the model has also made the results of the t and f statistics unreliable, because the estimators of the model are inefficient (Maddala, 2001).

Heteroscedasticity is removed by applying the white diagonal treatment to the model. The adjustment resulted in correction of the variance of the error term and enabled us to get better results of the hypotheses testing, as reliable and correct standard errors are used to conduct statistical inference.

5.5.1 Autocorrelation

The disturbance of the OLS assumptions has also resulted in autocorrelation in the model, as the error terms of model for different time periods are related to each other. The autocorrelation is detected from the model when the value of the Durbin Watson test is less than two. The value for the Durbin Watson test shows that the error terms of estimators are correlated with each other making the OLS estimators inefficient. The results of hypotheses tests are misleading, as the t and f statistics are unreliable.

The autocorrelation in the model is removed by Markov first order autoregressive treatment. After the adjustment, the estimators of the variables became efficient and enabled us to carry out the process of hypotheses testing free of error.

Table 5.4

Results of Three Main Models: Developed Market, Developing Market and Cross-market Analysis

Variables	Australian Model	Malaysian Model	Combined Model
Constant	0.78 (9.70)**	-0.01 (-0.09)	0.54 (3.09)**
Log Board Size	-0.16 (-3.28)**	0.18 (3.51)**	0.20 (1.25)
Log Market Capitalisation	0.02 (2.69)**	0.03 (2.44)**	
CEO Duality	0.05 (0.48)	0.05 (1.59)	0.14 (2.72)**
Gearing	-0.08 (-3.26)**		-0.07 (-4.36)**
Price to Book Value Ratio	43.79 (27.22)**	43.44 (5.43)**	49.03 (13.56)**
Return on Total Assets		1.09 (1.76)*	0.93 (1.78)*
Agency Cost	0.06 (1.03)	-0.19 (-2.15)**	
Log Procedures			-0.15 (-2.31)**
R-squared	0.87	0.75	0.77
Adjusted R-squared	0.87	0.74	0.77
Durbin-Watson	1.42	1.50	1.10
Mean Dependent Variable	1.94	1.03	1.42
F-statistic	(176.46)**	(116.68)**	(276.93)**

Notes: The values of the coefficients are in the first row.
Below are the values for T statistics in parenthesis.
Total number of observation for individual models = 240.
Total number of observation for combined model = 480.
* Represents the significance of a variable at 10% significance level.
** Represents the significance of a variable at 5% significance level.

The significance of individual variables of the model is tested for the developed market and it is found that board size, market capitalisation, gearing ratio and price to book value ratio have a relationship with the value of a firm.

The variance inflation and tolerance factors for the variables of the model for developed market are performed to detect multicollinearity and the results are as follows.

Table 5.5

Values of Tolerance and Variance Inflation Factor for the Developed Market (Australia)

Variables	Variance Inflation Factor	Tolerance Factor
Board Size	1.75	0.57
Agency Cost	1.26	0.79
Market Capitalisation	1.56	0.64
Price to Book Value Ratio	1.06	0.94
Gearing	1.18	0.84
CEO Duality	1.25	0.80

5.5.2 The Variance Inflation and Tolerance Factors

The variance inflation and tolerance factors for the variables of Australian companies are calculated to detect multicollinearity in the model by using the methodology discussed in Chapter 4. The results are presented in Table 5.5 and details are as follows.

The largest variance inflation factor is for the board size and has a value of 1.75. The lowest variance inflation factor occurs for the price to book value ratio and is 1.06. As a result, the variance inflation factor varies from 1.06 to 1.75, which shows no signs of multicollinearity in the model for the developed market. Similarly, the tolerance factor varies from a low of 0.57 for board size to a high of 0.94 for price to book value ratio, which shows there is no multicollinearity in the model for the developed market.

The econometric results for the developed market are presented in Appendix 8 and the mathematical form of the model is as follows:

$$Y_t = C + \beta_{1t} \log X_{1t} + \beta_{2t} X_{2t} + \beta_{3t} X_{3t} + \beta_{4t} \log X_{4t} + \beta_{5t} X_{5t} + \beta_{6t} X_{6t} + U_t \quad (5.1)$$

$$TQ = 0.22 + 0.38\ Size + 0.46\ Duality - 0.04\ Gr - 0.04\ Mc + 50.34\ Pb - 0.40\ Ac \quad (5.2)$$

(0.64) (0.91) (2.08)** (-0.48) (-0.80) (12.59)** (-0.89)

$R^2 = 0.\ 76$

Note: ** indicates the variable is significant at the 5 % level of significance.

5.5.3 Overall Statistics

The relationship between the value of a firm and the corporate governance mechanism is tested in the developed financial market. The results of the model do not suggest a valid relationship between them because in the model, only price to book value ratio has a relationship. This is consistent with the literature on the value of a firm. In addition, the value for R squared reflects that independent variables cause 76% of the variation in the value of a firm. The mean value of dependent variables is 1.81. The value for Durbin Watson test is 1.07.

5.5.4 Price to Book Value Ratio in the Developed Financial Market

Price to book value ratio is a control variable used in the model about CGVF in this study. The variable is significant at the 5% significance level with the value of 50.34. The result shows that a percentage point increase in the price to book value ratio leads to an improvement in the value of a firm by 50.34 units.

There is a lack of relationship between other corporate governance instruments and the value of a firm in the above model. In addition, the value for the Durbin Watson test is lower than 2, which shows the presence of autocorrelation. The model is limited in explaining the CGVF relationships in the developed financial market so we have tested the relationship between the value of a firm and corporate governance in the past periods by giving AR(1) treatment to the model.

The mathematical form of the model and the explanation of the results presented in Table 5.4 are given below:

$$Y_t = C + \beta_{1t} \log X_{1t-1} + \beta_{2t} X_{2t-1} + \beta_{3t} X_{3t-1} + \beta_{4t} \log X_{4t-1} + \beta_{5t} X_{5t-1} + \beta_{6t} X_{6t-1} + U_t \quad (5.3)$$

$$TQ = 0.78 - 0.16\ Size + 0.05\ Duality - 0.08\ Gr + 0.02\ Mc + 43.79\ Pb + 0.06\ Ac \quad (5.4)$$

(9.70)** (-3.28)** (0.48) (-3.26)** (2.69)** (27.22)** (1.03)

$R^2 = 0.\ 87$

Note: ** represents that variable is significant at 5 % level of significance.

5.5.5 Overall Statistics

The model for the developed market is selected on the basis of strong diagnostics and the valid relationship between the value of a firm and corporate governance mechanism. The model is adjusted for heteroscedasticity and autocorrelation. The diagnostics of the model shows that the model is good as R squared is high and the f statistic is also significant.

The t statistics and p values confirm the relationship of price to book value ratio, gearing, market capitalisation and board size with the value of a firm. The value for R squared reflects that independent variables cause 87% of the variation in the value of a firm. The 13% variation in the dependent variable is not explained by the independent variables due to additional factors, which are not captured by the model. The mean value of the dependent variables is 1.94. The value for the f statistic is 176.46 and this is significant. This shows that the model is stable and proves the relationship between the value of a firm and the independent variables (Gujarati, 1995).

5.5.6 CEO Duality in the Developed Financial Market

The variable is used to test the relationship between CEO duality and the value of a firm. As explained in Chapter 4, the dummy variable represents a qualitative dimension in regression. The value of the dummy variable is 1 when a single person controls the leadership structure, and is 0, when the role is distributed. This hypothesis (H3) is rejected as the variable is insignificant which shows there is no relationship of CEO duality with the value of a firm.

5.5.7 Board Size in the Developed Financial Market

Board size is a corporate governance instrument and is used to test the hypothesis about the negative relationship of board size and the value of a firm. This hypothesis (H4) is accepted, as the board size is significant at the 5% significance level. The sign of the coefficient is negative with a value of -0.16. The board size is transformed in log form and shows that a one percent increase in board size leads to 0.16 decrease in

the value of firm. The result is also consistent with corporate governance principles that an increase in the strength of the board deteriorates the value of a firm.

5.5.8 Gearing in the Developed Financial Market

Gearing is used to test the hypothesis about the negative relationship between the value of a firm and the debt in developed market. This hypothesis (H5a) is accepted, as the inverse relationship of the variable with the value of a firm is proved at 5% significance level.

Gearing is expressed as a percentage and the value for the coefficient of -0.08 shows that a percentage point increase in debt will decrease the value of a company by 0.08 units. As mentioned in Chapter 4, gearing is the ratio of long-term liabilities and shareholders fund. In this case, the long-term liabilities are greater than the shareholders fund. This will have a negative effect on the value of shareholders.

5.5.9 Market Capitalisation in the Developed Financial Market

Market capitalisation serves as a control variable used in the study about CGVF and shows the value of outstanding shares of a firm. The positive relationship of the variable with the value of a firm is supported at the 5% significance level. The value of the coefficient for market capitalisation is 0.02. The result shows that a one percent improvement in market capitalisation leads to a 0.02 improvement in the value of a firm. The result also endorses the value of corporate governance principles in developed financial markets.

5.5.10 Price to Book Value Ratio in the Developed Financial Market

Price to book value ratio is a control variable used in the model about corporate governance and the value of a firm. The variable is significant at the 5% significance level with a value of 43.79. This result shows that a percentage point increase in price to book value ratio leads to an improvement in the value of a firm by 43.79 units. The value of the coefficient of price to book value ratio is the highest among all the

variables in this model. The result also explains that knowledge of share prices, through public and private information, improves the value of a firm.

5.6 Econometric Model for the Developing Financial Market (Malaysia)

In the current model, the disturbance of the OLS assumptions made the variance of error term of the models unequal. Due to the presence of the heteroscedasticity in the model, the results of the t and f statistics are misleading. We treated the model by applying the White (1980) diagonal treatment to ensure the results of hypotheses testing are robust. We have also conducted the tests to detect multicollinearity so that the results of the model are deemed reliable. These tests are as follows.

5.6.1 Variance Inflation and Tolerance Factors

The variance inflation and tolerance factors for the variables used in the Malaysian model are calculated. The results are presented in Table 5.6 and shows that highest variance inflation factor value is 1.13 for market capitalisation and the lowest is 1.02 for price to book value ratio and agency cost. The result varies from 1.02 to 1.13, which shows no signs of multicollinearity in the model for the developing financial market.

Table 5.6

Values of Tolerance and Variance Inflation Factor for the Developing Market (Malaysia)

Variables	Variance Inflation Factor	Tolerance Factor
Board Size	1.09	0.91
Market Capitalisation	1.13	0.88
Agency Cost	1.02	0.97
Return on Total Asset	1.09	0.91
Price to Book Value Ratio	1.02	0.98
CEO Duality	1.03	0.97

The lowest value of the tolerance factor is 0.88 for market capitalisation, while the highest value is 0.98 for the price to book value ratio. The tolerance factor varies from 0.88 to 0.98, which shows no signs of multicollinearity in the model for the developing financial market.

The model for the developing financial market and the explanation of the results presented in the Table 5.4 are as follows.

$$Y_t = C + \beta_{1t} \log X_{1t} + \beta_{2t} X_{2t} + \beta_{3t} X_{3t} + \beta_{4t} X_{4t} + \beta_{5t} X_{5t} + \beta_{6t} \log X_{6t} + U_t \quad (5.5)$$

The model mentioned above explains the relationship between the value of a firm, corporate governance instruments and control variables in the developing financial markets.

The estimated form of the model is as follows:

$$TQ = -0.01 + 0.18\ Size - 0.19\ Ac + 0.05\ Duality + 43.44\ Pb + 1.09\ Rota + 0.03\ Mc \quad (5.6)$$

(-0.09) (3.51)** (-2.15)** (1.59) (5.43)** (1.76)* (2.44)**

$R^2 = 0.75$

Notes: * represents that variable is significant at 10 % level of significance.

** represents that variable is significant at 5 % level of significance.

5.6.2 Overall Statistics

The model is selected on the basis of strong diagnostics as the f statistic is significant and R squared is high. The model shows the relationship between the value of a firm and corporate governance. The t statistics and p values confirm the relationship is mediated by independent variables (board size, market capitalisation, price to book value ratio, return on total assets and shareholders concentration). The value of R squared shows that independent variables in the model cause 75% change in the value of a firm. The 25% variation in the dependent variable not explained by the independent variables is due to additional factors, which are not captured by the model.

The mean value for the dependent variable is 1.03, while the value for Durbin Watson test for this model is 1.50 and the value of f statistic is 116.68. The f statistic is significant which shows the model is stable and reliable.

5.6.3 Majority Shareholders in the Developing Financial Market

Shareholders concentration (agency cost) is significant at the 5% significance level. The coefficient is negative with a value of -0.19. The variable is in a percentage form, which demonstrates that a percentage point increase in ownership concentration decreases the value of a firm by 0.19 units. This hypothesis (H2) is accepted because the result supports the corporate governance principles in the developing financial market.

5.6.4 CEO Duality in the Developing Financial Market

CEO Duality is used as a dummy variable in the model. The value of the dummy variable is one when the role of CEO and Chairman is combined. Otherwise this value is zero. Duality is statistically insignificant, which rejects the hypothesis (H3) about the negative relationship between value of a firm and CEO duality in the developing market.

5.6.5 Board Size in the Developing Financial Market

There is a relationship between board size and the value of a firm as the variable is significant at the 5% significance level. The value of the coefficient is 0.18. The board size is in log form, which shows that a one percent increase in board size leads to improvement in the value of a firm by 0.18 units. The result suggests that an increase in the strength of the board leads to improvement in the value of a firm. Therefore, hypothesis (H4) is rejected.

5.6.6 Price to Book Value Ratio in the Developing Financial Market

The price to book value ratio is used as a control variable in the model for corporate governance and the value of a firm. The variable is significant at the 5% level with a value of 43.44. The results suggest that a percentage point increase in price to book value ratio leads to a 43.44 improvement in firm value. Similar to the previous model in the developing market, this model shows that price to book is the most important variable in affecting the value of a firm as the coefficient of this variable is highest of

all the variables in the model. The positive relationship between price to book ratio and value of a firm suggests that the developing market is efficient and the value for the shareholders is improved.

5.6.7 Return on Total Assets in the Developing Financial Market

Return on total assets is used as a control variable in the model for CGVF for the developing financial market. Return on total assets shows the amount of returns generated by the assets of a firm. This variable is significant at the 10% significance level and the value of coefficient is 1.09. The result shows that a percentage point increase in return on total assets improves the value of a firm by 1.09 units.

5.6.8 Market Capitalisation in the Developing Financial Market

Market capitalisation is significant at the 5% significance level and the value of the coefficient is 0.03. The coefficient is in log form, which shows that a one percent increase in market capitalisation leads to an improvement in the value of a firm by 0.03 units.

5.7 Econometric Model for the Cross-market Analysis

Similar to the models for the individual markets, the OLS assumptions are disturbed in the current model, as the variance of the error terms of the model are not equal. The model for cross-market analysis is adjusted by White diagonal treatment for heteroscedasticity as t and f statistics are not reliable. After the treatment, correct decisions about the relationship between independent variables and value of a firm are made. The tests to detect the multicollinearity in the models for developed and developing markets are also carried out. The results of these tests are as follows.

5.7.1 Variance Inflation and Tolerance Factors

Table 5.7 presents the results of variance inflation ranging from 1.06 to 1.35, which shows no signs of multicollinearity in the model. Similarly the results of the tolerance

factor vary from 0.74 to 0.93 and shows that there is no multicollinearity in the model for cross-market analysis.

Table 5.7

Values of Tolerance and Variance Inflation Factor for Developed and Developing Markets

Variables	Variance Inflation Factor	Tolerance Factor
Gearing	1.06	0.93
Procedures	1.35	0.74
CEO Duality	1.14	0.88
Return on Total Asset	1.19	0.84
Board Size	1.09	0.91
Price to Book Value Ratio	1.16	0.86

The mathematical form of the model for cross-market analysis presented in Table 5.4 is given below:

$$Y_t = C + \beta_{1t} X_{1t} + \beta_{2t} X_{2t} + \beta_{3t} \log X_{3t} + \beta_{4t} X_{4t} + \beta_{5t} X_{5t} + \beta_{6t} \log X_{6t} + U_t \quad (5.7)$$

The above-mentioned model explains the relationship between the value of a firm, corporate governance instruments and control variables in developing and developed financial markets. The estimated model is as follows:

$$Y_{it} = 0.54 + 0.14\ \text{Duality} - 0.07\ \text{Gr} - 0.15\ \text{Pro} + 49.03\ \text{Pb} + 0.93\ \text{Rota} + 0.20\ \text{Size} \quad (5.8)$$

(3.09)** (2.72)** (-4.36)** (-2.31)** (13.56)** (1.78)* (1.25)

$R^2 = 0.77$

Notes: * represents that variable is significant at 10 % level of significance.

** represents that variable is significant at 5 % level of significance.

5.7.2 Overall Statistics

The model for the cross-market analysis is robust as the R squared is high and f statistic significant. Furthermore, the t statistics and p values prove that price to book value ratio, return on total assets, gearing, CEO duality and procedures have a relationship with the value of a firm. The R squared in the current model is 77%, which shows that the above-mentioned independent variables in the model explain 77% variation in the value of a firm. The remaining 23% of the variation in the dependent variable are not explained by the independent variables. The value of the

Durbin Watson test is 1.10, the mean dependent variable is 1.42 and the f statistic is 276.93. The f statistic is significant which confirms a positive relationship of corporate governance with the value of a firm.

The explanations of the results are as follows.

5.7.3 External Corporate Governance Mechanism in the Cross-market Analysis

As discussed in Chapter 4, the procedures (regulatory index) shows the number of steps involved in settlement of a dispute in court. This variable is used to capture the degree of efficiency of the regulatory authority and judiciary. Therefore, a high value in the index is counter to the corporate governance principles, indicating that there are more procedures involved in the settlement of disputes in a court thereby making the regulatory authorities and the judicial system in the market less efficient.

The hypothesis (H1) is accepted as procedures (regulatory index) is significant at the 5% significance level. The value of the coefficient is -0.15, which shows that a one percent decrease in the procedures (represents an improvement in the efficiency of the regulatory authority) leads to an improvement in the value of a firm by 0.15 units.

5.7.4 CEO Duality in the Cross-market Analysis

Duality is statistically significant at 5% of significance level. The value of the coefficient is 0.14 and the sign of the coefficient suggests a positive relationship between the value of a company and CEO duality. The hypothesis (H3) is rejected as the dual leadership structure in a firm improves its value.

5.7.5 Board Size in the Cross-market Analysis

Board size is used to test the hypothesis about the role of the board in affecting the value of a firm. The hypothesis (H4) is rejected, as the variable is insignificant. The result shows no relationship between the bigger board and value of a firm.

5.7.6 Gearing in the Cross-market Analysis

Gearing is used to test the hypothesis about the role of debt in affecting the value of a firm. The variable is statistically significant at the 5% significance level and the value of the coefficient is -0.07. The result shows that a percentage point increase in debt decreases the value of a company by 0.07 units. The hypothesis (H5a) is accepted and (H5b) is rejected as debt creates a negative value for the shareholders and triggers the need of equity financing in these markets.

5.7.7 Price to Book Value Ratio in the Cross-market Analysis

Price to book value ratio is a control variable used in the model for corporate governance and the value of a firm. The variable is significant at the 5% significance level. The sign of the coefficient is positive and its value is 49.03, which shows that a percentage point increase in the price to book value ratio leads to an increase in the value of a firm by 49.03 units. The value of the coefficient shows that among all the variables, price to book value ratio affects the value of a firm to a highest degree. The result also shows that markets are efficient and firms create value for the shareholders.

5.7.8 Return on Total Assets in the Cross-market Analysis

Return on total assets is a control variable used in the model for CGVF relationship. The variable is statistically significant at the 10% significance level. The sign of the coefficient is positive and its value of 0.93. The variable is in percentage form, which shows that a percentage point increase in the return on total assets leads to increase in the value of a firm by 0.93 units.

5.8 Incremental Regression for Developed, Developing and Cross-market Analysis

Incremental regression tests were performed to see the contribution of each variable in affecting the value of a firm in the CGVF models. The results presented in Table 5.8 show the effect on R squared after the independent variables in all the models are removed on an individual basis. It is found that the removal of price to book value

ratio resulted in a substantial decrease in R squared. After the removal of this variable from the model of the developed market, the R squared decreased from 87% to 72%.

Table 5.8

Results of Incremental Regression Removing Price to Book Value Ratio

Models	Australia	Malaysia	Combined
R-squared (original)	0.87	0.75	0.77
R-squared (after the removal)	0.72	0.06	0.15

The removal of the price to book value ratio in the developing market has decreased R squared from 75% to 6%. Similarly, the removal of the price to book value ratio from the cross-market model has resulted in a decrease in R squared from 77% to 15%.

The analysis shows that the variation in the dependent variable is explained to a lesser degree with the removal of the price to book value ratio (Brooks, 2002) as after the removal of this ratio, the unexplained portion or value of error term is improved to a larger degree.

5.9 Complementarities in Corporate Governance Instruments in Affecting the Value of Firm in Developing and Developed Financial Markets

The complementarities in the corporate governance mechanism are tested to gauge their value enhancing ability in developing and developed financial markets. The details of these tests for both internal and external corporate governance mechanisms are as follows.

Table 5.9 and 5.10 present the results of tests for complementarities in the internal corporate governance mechanism and their effect on the value of a firm. In these tests the CEO duality is first removed from the model of developed and developing markets to test whether the CEO duality is the Edgeworth compliment of board size. The test (see Table 5.9) has resulted in no change in significance of board size, which shows that the CEO duality is not the Edgeworth complement of board size and do not affect the value of a firm. The test results in the rejection of the hypothesis (H3a).

Table 5.9

Effects on Board Size after the Removal of CEO Duality

Variables	Australian Model	Malaysian Model	Combined Model
Constant	0.81 (8.73)**	0.02 (0.22)	0.23 (0.79)
Log Board Size	-0.17 (-2.96)**	0.17 (3.31)**	0.12 (0.88)
Log Market Capitalisation	0.02 (2.72)**	0.03 (2.47)**	
Gearing	-0.09 (-3.34)**		-0.04 (-1.88)*
Price to Book Value Ratio	43.76 (27.49)**	43.36 (5.44)**	49.34 (13.29)**
Return on Total Assets		1.12 (1.82)*	1.12 (2.02)**
Agency Cost	0.08 (1.07)	-0.19 (-2.18)**	
R-squared	0.87	0.74	0.77
Adjusted R-squared	0.87	0.74	0.77
Durbin-Watson	1.42	1.48	1.09
Mean Dependent Variable	1.94	1.03	1.42
F-statistic	(206.76)**	(138.86)**	(412.64)**

Notes: The values of the coefficients are in the first row.
Below are the values for T statistics in parenthesis.
* Represents the significance of a variable at 10% significance level.
** Represents the significance of a variable at 5% significance level.

The second test about the role of complementarities of the internal corporate governance instruments in improving the value of a firm is reported in Table 5.10. In this test board size is removed from the regressions of developed and developing markets. The removal of board size has not affected the significance of CEO duality, which proves that the instruments do not improve the marginal benefit of each other in developing and developed financial markets. Furthermore, the instruments in combination do not improve the value of a firm in these financial markets resulting in the rejection of the hypothesis (H4a).

5.10 Complementarities in Corporate Governance Instruments in Affecting the Value of a Firm in the Cross-market Analysis

The tests about the complementarities among internal and external corporate governance mechanisms is performed to see whether the internal corporate

governance mechanisms (board size and CEO duality) improve the marginal benefit of each other and also whether the external (regulatory index) and internal corporate governance mechanism (board size and CEO duality) are the Edgeworth complements of each other. The tests enable us to understand the role of these instruments in affecting the value of a firm in developing and developed financial markets. The results are presented in tables 5.9, 5.10 and 5.11 and detailed discussion of these results is given below.

Table 5.10

Effects on CEO Duality after the Removal of Board Size

Variables	Australian Model	Malaysian Model	Combined Model
Constant	0.59 (12.05)**	0.33 (4.54)**	0.46 (8.46)**
Log Market Capitalisation	0.007 (1.08)	0.03 (2.83)**	
CEO Duality	0.12 (1.06)	0.03 (1.20)	0.06 (1.02)
Gearing	-0.07 (-2.56)**		-0.05 (-2.16)**
Price to Book Value Ratio	43.81 (27.21)**	43.51 (5.40)**	49.41 (13.37)**
Return on Total Assets		1.14 (1.81)*	1.09 (1.93)*
Agency Cost	-0.04 (-0.68)	-0.18 (-2.12)**	
R-squared	0.87	0.74	0.77
Adjusted R-squared	0.87	0.73	0.77
Durbin-Watson	1.40	1.45	1.09
Mean Dependent Variable	1.94	1.03	1.42
F-statistic	(202.69)**	(135.08)**	(412.13)**

Notes: The values of the coefficients are in the first row.
Below are the values for T statistics in parenthesis.
* Represents the significance of a variable at 10% significance level.
** Represents the significance of a variable at 5% significance level.

The results about the role of complementarities in affecting the value of a firm in the cross-market analysis are presented in Table 5.9. In these tests, CEO duality is first removed from the model for cross-market analysis. We find that removal of CEO duality does not affect the significance of board size, which shows that CEO duality is not the Edgeworth complement of board size rejecting the hypothesis (H3a). The

result also suggests that CEO duality in combination with board size does not improve the value of a firm.

On the contrary, Table 5.10 shows that removal of board size from the model makes the CEO duality insignificant. In the original model, the value of the coefficient for CEO duality is 0.14 and is statistically significant at the 5% significance level. After the removal of board size, CEO duality becomes insignificant and the value of coefficient changes to 0.06 accepting the hypothesis (H4a).

Table 5.11

Effects on the Model after the Removal of Internal and External Corporate Governance Variables

Variables	Remove Internal Corporate Governance Mechanism	Remove External Corporate Governance Mechanism
Constant	0.76 (4.89)**	0.20 (0.72)
Log Board Size		0.12 (0.96)
CEO Duality		0.07 (1.26)
Gearing	-0.06 (-3.91)**	-0.04 (-1.83)*
Price to Book Value Ratio	49.08 (13.42)**	49.42 (13.31)**
Return on Total Assets	1.03 (1.90)*	1.09 (1.96)*
Log Procedures	-0.09 (-2.02)**	
R-squared	0.77	0.77
Adjusted R-squared	0.77	0.77
Durbin-Watson	1.09	1.09
Mean Dependent Variable	1.42	1.42
F-statistic	(413.31)**	(329.91)**

Notes: The values of the coefficients are in the first row.
Below are the values for T statistics in parenthesis.
* Represents the significance of a variable at 10% significance level.
** Represents the significance of a variable at 5% significance level.

The result proves that board size is the Edgeworth complement of CEO duality in developing and developed markets and these instruments together improve the value of a firm in these markets. Table 5.11 shows the results of the tests about the complementarities of the internal and external corporate governance mechanisms.

The test of complementarities of external and internal corporate governance mechanism suggests that the external corporate governance mechanism (procedures) is the Edgeworth complement of the internal corporate governance mechanism (CEO duality) accepting the hypothesis (H1a). In the original model, CEO duality is statistically significant at the 5% significance level with a coefficient of 0.14. The removal of the procedures (regulatory index) from the model made the CEO duality insignificant and changed the value of coefficient to 0.07.

The removal of procedures has not affected the relationship of the board size with the value of a firm. This proves that these instruments are not the Edgeworth complements of each other and therefore hypothesis (H1a) must be rejected.

Table 5.11 also shows that the internal corporate governance mechanisms (board size and CEO duality) are not the Edgeworth complement of the external corporate governance instrument (procedures) in developing and developed markets. The test results in rejection of the hypothesis (H1b).

The removal of the internal corporate governance mechanism (board size and CEO duality) does not affect the significance or marginal benefit of the external corporate governance mechanism (procedures). The internal corporate governance mechanism does not improve the marginal benefit of external corporate governance mechanism in developing and developed financial markets. Combining these, the internal corporate governance mechanism (CEO duality and board size) with the external corporate governance mechanism (regulatory authority and judiciary), does not improve the value of a firm.

5.11 Social Value of a Firm in the Developing Market

It was explained in Chapter 3 that the value of a firm is a composite of its monetary and social values. Consequently, it is necessary to test the importance of the social value in the CGVF model for the developing market. To analyse this role, we have conducted a test to determine whether the inclusion of social value of a firm makes the model of CGVF a better fit by increasing the value of a firm by 10% and evaluating the diagnostics of the model.

Table 5.12

Effects of Social Value on the Model of the Developing Market

Variables	Malaysian Model Socially Responsible Companies	Malaysian Model (Original)
Constant	-0.01 (-0.09)	-0.01 (-0.09)
Log Board Size	0.20 (3.51)**	0.18 (3.51)**
Log Market Capitalisation	0.03 (2.44)**	0.03 (2.44)**
CEO Duality	0.05 (1.59)	0.05 (1.59)
Price to Book Value Ratio	47.79 (5.43)**	(43.44)** (5.43)**
Return on Total Assets	1.20 (1.76)*	1.09 (1.76)*
Agency Cost	-0.21 (-2.15)**	-0.19 (-2.15)**
R-squared	0.75	0.75
Adjusted R-squared	0.74	0.74
Durbin-Watson	1.50	1.50
Mean Dependent Variable	1.13	1.03
F-statistic	(116.68)**	(116.68)**

Notes: The values of the coefficients are in the first row.
Below are the values for T statistics in parenthesis.
* Represents the significance of a variable at 10% significance level.
** Represents the significance of a variable at 5% significance level.

It is found that the significance level of the variables and diagnostics of the model for the developing market are not affected by the inclusion of the social value. However, the value of coefficients of the corporate governance instruments (board size and role of majority shareholding) and control variables (return on total assets and price to book value ratio) are changed. The results are presented in Table 5.12 and show that social value has an impact on the variables under consideration.

5.12 Robustness Tests for the Models of the CGVF in Developed and Developing Financial Markets

Factor analysis (correlation tests), cross-market analysis and tests for endogeneity are performed to check the robustness of results in the study. Factor analysis (correlation analysis) is performed to supplement the results of incremental regression. On the

contrary, the cross-market analysis is performed to check the robustness of individual models. Similarly, the endogeneity tests are also performed to strengthen the dynamics of the model and are presented in Table 5.13.

Table 5.13

Endogeneity Tests for Developing (Malaysia) and Developed (Australia) Models

Variables	Australian Model	Malaysian Model
Constant	0.69 (5.68)**	-0.01 (-0.11)
Log Board Size	0.16 (0.46)	0.19 (3.61)**
Log Market Capitalisation	-0.19 (-0.39)	0.03 (2.43)**
CEO Duality	0.24 (1.15)	0.05 (1.75)*
Gearing	0.05 (0.35)	
Price to Book Value Ratio	43.7 (27.1)**	43.14 (5.35)**
Return on Total Assets		1.10 (1.76)*
Agency Cost	-1.49 (-0.89)	-0.22 (-2.44)**
Residuals	1.55 (0.93)	-0.11 (-1.53)
R-squared	0.87	0.75
Adjusted R-squared	0.87	0.74
Durbin-Watson	1.42	1.50
Mean Dependent Variable	1.94	1.03
F-statistic	(153.76)**	(100.34)**

Notes: The values of the coefficients are in the first row.
Below are the values for T statistics in parenthesis.
Total number of observation for individual models = 240.
* Represents the significance of a variable at 10% significance level.
** Represents the significance of a variable at 5% significance level.

The results of the incremental tests presented in Table 5.8 show that the price to book value ratio has caused the greatest effect in all the models. Similarly, the correlation coefficient between Tobin's Q and price to book value ratio is highest among all the variables. The results of correlation analysis support the econometric results of the study.

Furthermore, the tests to detect endogeneity in the models for developing (Malaysia) and developed (Australia) markets are also performed. These tests are performed by following the two step process developed by Black, Jang and Kim (2003) and Minguez-Vera and Martin-Ugedo (2007). In the first step, the relationship between the dependent variable (agency cost) and independent variables (board size, CEO duality, gearing, price to book value ratio, market capitalisation and return on total assets) are tested and the error term is calculated.

In the second step, the error term (residual) is used as an independent variable and its relationship with the value of a firm is tested. The variable (residual) has no relationship with the value of a firm in the models for developing and developed financial markets which show that there is no endogeneity in the models and the results are robust.

5.13 Nature of the Relationship between CGVF in Developing and Developed Markets

The relationship of the variables such as price to book value ratio, shareholders concentration (agency cost), gearing and return on total assets is linear (expressed as a percentage) with the value of a firm. It shows that a change in these variables results in a proportionate change in the value of a firm.

On the contrary, the relationship of the value of a firm with board size, market capitalisation and regulatory index is non-linear in all the models, but is linear with the logarithm of these variables. A change in these variables (board size, market capitalisation and regulatory index) does not affect the value of a firm proportionally.

5.14 Conclusion

The current chapter has analysed and compared the results of the descriptives of developing and developed financial markets. The chapter has also explained the results on the relationship of corporate governance and the value of a firm, results of complementarities of the corporate governance instruments, and the incremental tests of the importance of individual variables. The results in the developed market

(Australia) suggest that market capitalisation and price to book value ratio have a positive relationship with the value of a firm, while board size and gearing have a negative relationship with the value of a firm. The results of the relationship between the value of a firm and corporate governance variables in the developing market suggest that board size, market capitalisation, price to book value ratio and the return on total assets have a positive relationship with the value of a firm. The majority shareholders play a negative role in affecting the value of a firm in the developing market. The results of the cross-market analysis suggest that CEO duality, return on total assets and price to book value ratio have a positive relationship with the value of a firm, while inefficient regulatory authority and higher debt are negatively related to the value of a firm in both markets. The results about the complementarities of internal corporate governance instruments suggest that board size and CEO duality are not the Edgeworth complement of each other in developing and developed financial markets. Board size is the Edgeworth complement of CEO duality in the cross-market analysis and regulatory authority is also an Edgeworth complement of CEO duality in the same model. Incremental testing shows that the price to book value ratio affects the value of a firm to the greatest degree. In the next chapter, we will discuss the financial, corporate governance and regulatory policy implications of the results presented in this chapter.

Chapter 6
Implications of the Results: Corporate Governance and the Value of a Firm in Developing and Developed Financial Markets

6.1 Introduction

In the previous chapter we have reported the results regarding the relationship between corporate governance and the value of a firm (CGVF). This chapter provides the implications of the results of the different models for the CGVF relationship in both developing and developed financial markets. Furthermore, financial interpretation of the results of hypotheses testing is also given.

The chapter is structured as follows. Section 6.2 deals with the implications of the CGVF relationship in the developed financial market. Section 6.3 presents the implications of the results for the developing financial market. Similarly, Section 6.4 presents the implications of the results for the cross-market analysis. Section 6.5 discusses the implications of the results for incremental regression. Sections 6.6 and 6.7 explain the implications of the results of the complementarities of corporate governance instruments. Section 6.8 discusses the implication of the result of social value of a firm. Sections 6.9, 6.10 and 6.11 present a summary of the results of the models of the study. Finally, Section 6.12 concludes the chapter.

As discussed in Chapter 3, three main models were specified in this study. The first two models serve as typical examples for developed and developing markets and the third model is used for cross-market analysis. The results of the models in this study will help us to understand the mechanisms through which corporate governance affects the value of a firm and how this process is different in developing and developed markets.

Our arguments about the CGVF relationships are represented by a number of operationally testable hypotheses and estimated models (variables, coefficients, etc.). These diagnostics were analysed to check the validity of the hypotheses in these

models. The process of operationalisation of these hypotheses are summarised again as follows. The hypothesis (H1) about the efficiency of regulatory authority in affecting the value of a firm is represented by procedures (regulatory index). The role of majority shareholders in affecting the value of a firm in developing and developed financial markets (H2) is represented by agency cost (Ac) and the role of CEO duality in affecting the value of a firm (H3) is represented by Duality. The role of board size in affecting the value of a firm (H4) in selected markets is represented by Log Size. The role of debt in affecting the value of a firm (H5a and H5b) is represented by gearing ratio (Gr). The hypothesis (H6) about the higher need of corporate governance in the developing market will be tested by analysing the role of regulatory authority and the majority shareholders in affecting the value of a firm in this market.

The first model tests the hypotheses based on the Australian (developed) market and examines the effect of the internal corporate governance mechanism and control variables in affecting the value of a firm. The variables specifying the internal corporate governance mechanism in this model are board size, CEO duality, role of debt (gearing) and shareholder concentration (Ac) in the market. The control variables in the model for the developed market are market capitalisation and price to book value ratio.

The second model in the current study concerns the role of corporate governance in affecting the value of a firm in a developing financial market. As discussed in Chapter 3, the variables used in the model for the developing market represent the internal corporate governance instruments and control variables in affecting the value of a firm. The internal corporate governance variables are board size, CEO duality and shareholders concentration (Ac) in the market. The control variables are price to book value ratio, market capitalisation and return on total assets.

The third model about corporate governance and the value of a firm in this study is a cross-market analysis. The model is based on both internal and external corporate governance mechanisms and uses control variables to see the role of additional factors in affecting the value of a firm in these markets. The internal corporate governance mechanism is based on CEO duality, board size and gearing. The external corporate governance mechanism in the model is based on regulatory index and is represented

by the procedures. Similar to the other corporate governance models for the individual market, the control variables in the cross-market analysis are price to book value ratio and return on total assets.

The chapter also analyses the results of the hypothesis that corporate governance improves the value of a firm in the developing financial market to a greater extent compared to the developed financial market. In addition, the results of the importance of social value of a firm, the results for incremental regressions, and the results for complementarities of the internal and external corporate governance mechanisms in developing, developed and cross-market analysis are also analysed.

6.2 Implications of Results on the CGVF Relationship in the Developed Financial Market

This section presents the results of the hypotheses testing in the developed (Australia) financial market. As we have discussed in Chapter 4, different models for the developed market were tried and the model used was selected on the basis of strong diagnostics. The hypotheses mentioned below are related to this selected model for the developed market. The first test is about the negative relationship of the CEO duality with the value of a firm (H3). Similarly, the second test is about the negative relationship between board size and the value of a firm (H4). The third test in the model for the developed financial market is based on the negative relationship of debt with the value of a firm (H5a).

Table 6.1

Results of Hypotheses for Developed Market (Australia) and Consistency with the Literature

Hypotheses	Results	Significance level	Arguments
Board Size	Significant (-)	0.05	Consistent with literature
Market Capitalisation	Significant (+)	0.05	Consistent with literature
CEO Duality	Insignificant	0.10	Inconsistent with literature
Gearing	Significant (-)	0.05	Consistent with literature
Price to Book Value Ratio	Significant (+)	0.05	Consistent with literature
Agency Cost	Insignificant	0.10	Inconsistent with literature

The control variables in the developed market include market capitalisation and price to book value ratio. The literature suggests a positive relationship between the value of a firm and these control variables.

Table 5.4 presented the statistical results of the model about the CGVF relationship in the developed financial market. Summary of the results is presented in the Table 6.1 and their explanation is as follows.

6.2.1 Result of CEO Duality

The hypothesis (H3) that CEO duality is negatively related to the value of a firm is rejected, as the variable is insignificant at 10% significant level. The result is consistent with Daily and Dalton (1992, 1993), as they do not find any relationship between the value of a firm and CEO duality. The above-mentioned result is different from White and Ingrassia (1992), Pi and Timme (1993) and Kyereboah-Coleman and Biekpe (2005) who found a negative relationship between CEO duality and the performance of a firm, but did not find it insignificant.

The difference in the results about the relationship between CEO duality and the value of a firm in the current study is due to a limited dataset being used with different corporate governance models and firms being selected from different sectors of the economy by previous researchers. Different corporate governance models have different characteristics, which can have a bearing on the relationship between CEO duality and the value of a firm.

6.2.2 Result of Board Size

The hypothesis (H4) about the negative relationship between a bigger board size and the value of a firm in developed markets is accepted, as board size is significant at the 5% significance level. The result suggests that an increase in board size affects the value of a firm in a negative manner.

Analysis and Implication

The negative relationship found between a bigger board size and the value of a firm in the developed market is consistent with the conclusion drawn by Yermack (1996), Eisenberg, Sundgren and Wells (1998), Conyon and Peck (1998) and Loderer and Peyer (2002). They have reported a negative relationship between board size and the performance of a firm and argued that a large board size leads to the free rider problem where most of the board members play a passive role in monitoring the firm. Furthermore, the board members tend to become involved in dysfunctional conflicts where the board is not cohesive (board members are not working optimally to achieve a single goal) deteriorating the value of a firm.

The result differs from Kyereboah-Coleman and Biekpe (2005) who conclude a positive relationship between a firms' value and board size. The result of the hypothesis also differs from Zahra and Pearce (1989) who argue that a large board size brings more management skills and makes it difficult for the CEO to manipulate the board. The result about the negative relationship between the bigger board size and the value of a firm in the developed market differ from Kyereboah-Coleman and Biekpe (2005) as they performed a study on firms in a developing market. Firms in these markets have different characteristics compared to the firms in developed markets and can result in a different type of relationship between board size and the value of a firm.

The result implies that regulatory authorities in developed markets are inefficient in decreasing the agency cost among the board members. Majority shareholders can play an important role in bringing improvement to the value of a firm as argued by Grossman and Hart (1982) and Kaplan and Minton (1994). As we have argued in Chapter 3, a bigger board deteriorate the value of a firm in the developing market and have built a conceptual framework on the same argument. Therefore, the conceptual framework is successful in incorporating an important factor in affecting the value of a firm in this market.

6.2.3 Result of Gearing

The hypothesis (H5a) about the relationship of debt and the value of a firm is accepted as gearing is significant at the 5% significance level and the sign of the coefficient is negative. The result shows that an increase in the level of leverage diminishes the value of a firm in the developed market.

The result about the negative relationship between debt and the value of a firm in the developed market (H5a) is consistent with the studies conducted by Novaes and Zingales (1995) and Rajan and Zingales (1995), as they found a similar relationship. On the contrary, the result differs from Jensen (1986) who established a positive relationship between the value of a firm and gearing and proved that debt can be used as a powerful instrument in managing the free cash flow. The difference in the results could be accounted to the fact that Jensen used different control variables in his CGVF model, which affected his results on the nature of the relationship between debt and the value of a firm.

Analysis and Implication

The result supports the argument by Heinrich (2002) that gearing in developed markets does not create value for firms. The majority shareholders are absent in this market and there is no pressure on the management of a firm to govern the debt.

A negative relationship between the value of a firm and debt in the developed market implies that the agency cost between the creditors and management is higher than the same cost between management and shareholders. Debt should be handled appropriately to reduce the agency cost and improve the value of a firm as argued by John and John (1993).

Complementarities

The result supports that higher debt and dispersed shareholdings are not the Edgeworth complements of each other in the developed market and the agency cost between creditors and managers is not managed well in this market. The higher debt

and intensive monitoring by majority shareholders are the Edgeworth complements in concentrated shareholdings and the combination together improves the value of a firm (Berglof, 1997). As, there is no intensive monitoring by majority shareholders in the developed financial market (Australia) because shareholding is dispersed and this feature makes high leverage disadvantageous to the firms of this market. In this case, the monitoring by institutions such as banks and other financial intermediaries can add value to the shareholders (Diamond, 1984; Admati, Pfleiderer and Zechner, 1994).

Financial Implication

Debt is negatively related to the value of a firm, which proves that the Modigliani and Miller hypothesis (1958, 1963) does not hold in the developed market. As explained in Chapter 2, the Modigliani and Miller hypothesis suggests that capital structure does not affect the value of a firm in financial markets. The result shows that capital structure does matter for firms in developed markets. There is an agency cost and the cost of financial distress attached to debt in the developed market as higher debt creates a negative value for shareholders in this market.

The result about the negative relationship between debt and the value of a firm supports the second trade-off theory. This theory states that tax benefits gained by a firm as a tax shield, are offset by the cost of financial distress attached to debt in the developed financial market.

We have discussed in Chapter 3 that the role of gearing in affecting the value of a firm in the developing market is different from the developed market. This difference arises due to a varying social, political and economic factors in these markets, which make the process by which the value of a firm is impacted in developing markets differently from developed markets (Gillan, Hartzell and Starks, 2003) as supported by this result. The result also supports the literature on the CGVF relationship in the developed financial market.

The current result supports the argument that higher debt creates a negative value for the shareholders. This also suggests that the conceptual framework based on this argument is successful in incorporating an important factor affecting the value of a firm in this market.

6.2.4 Result of Market Capitalisation

Market capitalisation is a control variable used in the model for the corporate governance and the value of a firm. The relationship between the value of a firm and the liquid market is positive at the 5% significance level. This implies that an improvement in market capitalisation leads to an improvement in the value of a firm. The result is consistent with the study conducted by Hartzell, Kallberg and Liu (2003), who also found a positive relationship between market capitalisation and the value of a firm.

Analysis and Implication

The argument by Heinrich (1999) that higher market capitalisation in the developed market leads to improvement in the value of a firm is accepted. This positive relationship between the value of a firm and market capitalisation supports the result suggested by Holmstrom and Tirole (1993) who argue that firms with a higher market capitalisation enjoy more confidence from investors. This in turn improves the firm's value. The result suggests that the CGVF model for the developed market based on the conceptual framework has incorporated another important factor affecting the value of a firm. In this market, higher market capitalisation improves the confidence of investors who then increase their investment in the firm, ultimately improving its value.

Furthermore, as discussed in Chapter 4, the process by which the liquidity in the market affects the value of a firm in the developed market is also supported, and the result is consistent with the literature on the CGVF relationship for the developed financial market.

Complementarities

It is also supported that market liquidity is Edgeworth complement to dispersed shareholding in the developed market (Heinrich, 1999). These instruments in combination improve the marginal benefit of each other, ultimately improving the value of a firm.

Financial Implication

In addition to the above explanation, the result supports that the developed market is liquid and transparent. The prices of securities reflect public and private information and extrinsic rewards to managers can be aligned to the value of a firm for value creation of investors. The result supports the findings of Holmstrom and Tirole (1993) and Heinrich (2002) about the efficiency of developed markets in reflecting information in the prices of securities.

6.2.5 Result of Price to Book Value Ratio

There is a positive relationship between the value of a firm and price to book value ratio. As discussed in Chapter 4, price to book value ratio can be calculated by dividing the current closing price of a share by its book value. A higher price to book value ratio gives a positive signal to investors to make further investments and improve the value of a firm in the developed financial market.

Analysis

Price to book value is used as a control variable in affecting the value of a firm in the developed financial market. A higher price to book value shows that prices of shares reflect the available information in the market. The result proves that companies function well and assets create value for the shareholders. This supports the process discussed in Chapter 4, by which price to book value ratio improves the value of a company in the developed financial market.

6.3 Implications of Results on the CGVF Relationship in the Developing Financial Market

The results about the hypotheses relevant for the CGVF model for the developing financial market are as follows. The hypotheses are related to the model selected in this study for the developing financial market, on the basis of strong diagnostics.

The first test in the model for the developing market suggests that the role of majority shareholders is negative (H2). The literature about corporate governance and the value of a firm suggests that majority shareholders are involved in 'tunnelling', the process of transferring assets and profits out of the firm for the benefit of controlling shareholders. The hypothesis is based on the same argument.

The second test suggests that CEO duality in a firm is expected to have a negative relationship with the value of a firm (H3). The hypothesis is based on principles of corporate governance, which suggest that CEO duality harms the independent decision-making of the board.

The final test suggests a negative relationship between the board size and the value of a firm in the developing financial market (H4) as a larger board results in higher agency costs in a firm.

Furthermore, the relationship between the control variables such as price to book value ratio, return on total assets and market capitalisation is expected to be positive with the value of a firm in the developing financial market.

Table 5.4 presented the statistical results of the model about the CGVF relationship in the developing financial market. A summary of these results is presented in Table 6.2 and their explanation follows below.

6.3.1 Result of Majority Shareholders

The hypothesis (H2) about the role of majority shareholders in diminishing the value of a firm is accepted. Shareholders concentration is significant at the 5% significance

level and supports a negative relationship with the value of a firm.

Table 6.2

Results of Hypotheses for Developing Market (Malaysia) and Consistency with the Literature

Hypotheses	Results	Significance level	Arguments
Board Size	Significant (+)	0.05	Inconsistent with literature
Duality	Insignificant	0.10	Inconsistent with literature
Price to Book Value Ratio	Significant (+)	0.05	Consistent with literature
Return on Total Assets	Significant (+)	0.10	Consistent with literature
Agency Cost	Significant (-)	0.05	Consistent with literature
Market Capitalisation	Significant (+)	0.05	Consistent with literature

Analysis and Implication

The result about the relationship between the value of a firm and majority shareholders suggests that blockholders, individual shareholders with large stock holdings, play an adverse role in the implementation of corporate governance, as they do not perform the job of a regulatory authority in the developing market, and are often involved in cross-shareholding and pyramidal structures in this market (Malaysia). The majority shareholders can improve the value of a firm by playing an active role in monitoring them as argued by Mayer (2001).

The result of the hypothesis about the relationship between majority shareholders and the value of a firm is consistent with Bebchuk, Kraakman and Triantis (2000) and Pinkowitz, Stulz and Williamson (2003), who suggested that majority shareholders are involved in tunnelling in developing markets. On the contrary, the result of the hypothesis is different from Shleifer and Vishny (1986) and Kaplan and Minton (1994) who verified a positive role of majority shareholders in improving the value of a firm. Shleifer and Vishny (1986) performed a descriptive study about the CGVF relationships and used different control variables. Similarly, Kaplan and Minton (1994) also conducted a study in a different market (Japan) and tested the relationship of the value of a firm with banks and corporations. The current CGVF model is different from these models as it is based on Malaysian firms having a different ownership structure (pyramidal and cross-shareholding). The different corporate governance structures in different markets can make the CGVF relationship vary in developing and developed financial markets.

The result about the negative role of majority shareholders also supports the process by which the value of a firm is affected in the developing market. The presence of majority shareholders in the developing market makes the process different from the developed financial market as argued by Heinrich (2002) and Gillan, Hartzell and Starks (2003). The result suggests that the corporate governance model for the developing market is successful in explaining the relationship between majority shareholders and the value of a firm in such financial market. Additionally, the results are consistent to the literature of the CGVF relationship in this market.

Financial Implication

The above-mentioned result supports the view that the agency cost between majority and minority shareholders is higher in the developing market because the management of the firm is looking after the interests of majority shareholders. This results in an increase in the responsibility of the regulatory authority to improve the value of a firm as argued by La Porta et al. (1998), Lins (2000) and Lins and Servaes (2002).

The cash flow is not governed properly as there is an agency cost between managers and shareholders. The agency cost between majority shareholders and managers is also not handled properly. Managers are involved in under and over investment of excessive cash flow. Debt can be used to control the agency cost between managers and majority shareholders by solving the free cash flow problem as suggested by Jensen (1986) and Claessens, Djankov and Pohl (1997).

6.3.2 Result of CEO Duality

The hypothesis (H3) about the relationship between the value of a firm and CEO duality is rejected, as CEO duality is statistically insignificant.

Analysis

The result is consistent with those of Chaganti, Mahajan and Sharma (1985) and Daily and Dalton (1992, 1993) who failed to find any relationship between CEO duality and

the value of a firm. In addition, the results are also consistent to Dalton et al. (1998) who found a weak relationship between the value of a firm and CEO duality.

6.3.3 Result of Board Size

Board size has a positive relationship with the value of a firm. The hypothesis (H4) about a negative relationship between board size and the value of a firm is therefore rejected, as an increase in board size leads to an improvement in the value of a firm.

Analysis and Implication

The result about the positive relationship of board size with the value of a firm is consistent to Pfeffer (1972), Zahra and Pearce (1989) and Kyereboah-Coleman and Biekpe (2005) as a bigger board brings more management, planning and technical skills. In addition, the result shows that there is no agency cost among the members of a larger board, as the relationship between board size and the value of firm is positive. The board members are involved in functional conflicts and the board is cohesive which brings improvement in the firm's value.

On the contrary, the result about board size and the value of a firm is different from Yermack (1996), Conyon and Peck (1998), Eisenberg, Sundgren and Wells (1998) and Loderer and Peyer (2002) who reported a negative relationship between board size and performance of a firm. They argue that a larger board size leads to the free rider problem when most of the board members do not perform their fiduciary duties.

The result about board size and the value of a firm in the current study is different because Eisenberg, Sundgren and Wells (1998) studied the relationship of board size and profitability of small and medium size Finnish firms. Also, Conyon and Peck (1998) conducted studies on U.K. firms from 1991 to 1994. The dataset in these studies was limited and an outsider system of corporate governance was selected for their studies. Furthermore, developing and developed markets have different characteristics, which might in all likelihood have affected the nature of the relationship of board size and the value of a firm in these markets.

6.3.4 Result of Price to Book Value Ratio

The price to book value ratio is used as a control variable in the CGVF model for the developing financial market. The result suggests a positive relationship between the value of a firm and the price to book value ratio.

Analysis

The financial principle that improvement in the price to book value ratio leads to an increase in the value of a firm is supported. The positive relationship suggests that a higher price to book value ratio improves the value of a firm as the assets have a higher value in the market. This result suggests that the corporate governance model for the developing market based on the conceptual framework has incorporated another important factor affecting the value of a firm in this market.

6.3.5 Result of Return on Total Assets

Return on total assets is also used as a control variable in the CGVF model in the developing financial market. The test shows a positive relationship between the value of a firm and return on total assets.

Analysis

The positive relationship between the value of a firm and return on total assets suggests that assets of the selected firms in developing markets generate a positive rate of return for shareholders and create value for them.

6.3.6 Result of Market Capitalisation

The third control variable used in the CGVF model for the developing financial market is market capitalisation. Similar to the result of market capitalisation in the developed financial market, the test shows a positive relationship between the value of a firm and market capitalisation. The positive relationship suggests that an increase in market capitalisation leads to improvement in the value of a firm. The result is

consistent with those of Holmstrom and Tirole (1993) and Hartzell, Kallberg and Liu (2003) who found a positive relationship between market capitalisation and the performance of a firm.

Complementarities

The result shows that high market capitalisation improves the value of a firm in the developing market and contradicts the findings of Heinrich (1999) who suggested that an illiquid market (low market capitalisation) and concentrated shareholdings (developing market) are the Edgeworth complements of each other.

6.4 Implications of Results on the CGVF Relationship in the Cross-market Analysis

This section presents the results about the hypotheses testing for the cross-market analysis. Similar to CGVF models for individual markets, the cross-market model is selected on the basis of strong diagnostics and a valid CGVF relationship. The hypotheses related to this model are as follows.

Table 6.3

Results of Hypotheses for Developing (Malaysia) and Developed Markets (Australia) and Consistency with the Literature

Hypotheses	Results	Significance level	Arguments
Gearing	Significant (-)	0.05	Inconsistent with literature (Mal.) Consistent with literature (Aust.)
Duality	Significant (+)	0.05	Inconsistent with literature
Price to Book Value Ratio	Significant (+)	0.05	Consistent with literature
Board Size	Insignificant	0.10	Inconsistent with literature
Return on Total Assets	Significant (+)	0.10	Consistent with literature
Procedures	Significant (-)	0.05	Consistent with literature

The first test is about the efficiency of the regulatory authority in developed and developing financial markets (H1). The literature suggests a positive relationship between an efficient regulatory authority and the value of a firm.

The second test is about the role of CEO duality. The literature suggests a negative relationship with the value of a firm in developing and developed financial markets (H3).

The third test considers how board size affects the value of a firm. The literature suggests that a bigger board affects the value of a firm in a negative manner (H4).

The fourth test deals with the role of debt in affecting the value of a firm in developing and developed financial markets. The higher debt has a negative relationship with the value of a firm in developed financial markets (H5a). On the contrary, literature suggests that higher debt is positively related to the value of a firm in the developing market (H5b).

The fifth test suggests that firms in the developing market can improve their value to a higher degree compared to firms in developed markets, as there is greater room for improvement in these firms (H6).

Control variables in the CGVF model are price to book value ratio and return on total assets. The existing literature suggests a positive relationship of both variables with the value of a firm.

Table 5.4 presented the statistical results of the model about the CGVF relationship in the developing and developed financial markets. A summary of the results is also presented in the Table 6.3 and the implications of these results are as follows.

6.4.1 Result of External Corporate Governance Mechanism

As mentioned in Chapter 4, the variable procedures shows the cost and number of steps involved in the settlement of a corporate dispute in court. The variable is used to capture the efficiency of the regulatory authority and judiciary. A high value of the index reflects a higher cost and more procedures involved in the settlement of disputes and works against the beneficial effects of corporate governance principles.

Analysis and Implication

The result about the role of the regulatory authority in affecting the value of a firm in financial markets (H1) suggests that an inefficient regulatory authority and judiciary in a developing market affects the value of a firm in a negative manner, which supports the findings by La Porta et al. (1998). He also found the same type of relationship between the value of firm and regulatory authority efficiency. The result also supports the suggestion by Hanrahan, Ramsay and Stapledon (2001), that the value of a firm is improved in the presence of efficient contract law. An efficient contract law protects the rights of shareholders ultimately improving the value of a firm.

The result about the relationship between the value of a firm and efficiency of the regulatory authority is consistent with the studies conducted by Dyck and Zingales (2001), Doidge, Karolyi and Stulz (2001), Durnev and Kim (2002) and Nenova (2003), who argue that an efficient legal system has a positive impact on the value of a firm as the rights of shareholders are protected. An efficient regulatory authority also disciplines the majority shareholders and decreases the agency cost in the market.

The result of the hypothesis concerning the presence of an efficient regulatory authority in developing and developed financial markets supports the accuracy of the corporate governance model for cross-market analysis in explaining the characteristics of both the markets and its success in incorporating important factors affecting the value of a firm in these markets.

6.4.2 Result of CEO Duality

The hypothesis (H3) about the negative relationship between value of a firm and CEO duality is rejected, as the variable is significant in developing and developed financial markets and the coefficient suggests a positive relationship between the value of a firm and CEO duality.

The result about the positive relationship between the value of a firm and CEO duality is consistent with Stoeberl and Sherony (1985), Alexander, Fennell and Halpern

(1993), Daily and Dalton (1995) and Brickley, Coles and Jarrell (1997), who support that duality (independent CEO) leads to higher performance because of the non-existence of an agency cost between the CEO and Chairman. The performance of the CEO can be linked to incentives, which results in improving the value of a firm.

The result about the relationship between the value of a firm and CEO duality is not consistent with White and Ingrassia (1992), Pi and Timme (1993) and Kyereboah-Coleman and Biekpe (2005) as they support a negative relationship between the CEO duality and performance of a firm. The difference in results is due to a small dataset being used, diverse control variables and different markets chosen for the study by the above researchers. Different markets/systems and different control variables can have an important impact on the relationship of CEO duality and value of a firm in developing and developed financial markets.

6.4.3 Result of Board Size

The hypothesis (H4) about the negative relationship between board size and the value of a firm is rejected, as the board size does not play any role in affecting the value of a firm.

6.4.4 Result of Gearing

The hypothesis (H5a) about the negative role of debt in affecting the value of the shareholders in the developed market is accepted. On the contrary, the hypothesis (H5b) relevant to the developing market about the positive role of leverage is rejected. The econometric test supports the negative relationship between the value of firm and debt at the 5% significance level. Higher debt creates a negative value for shareholders in developing and developed financial markets.

The result about the role of debt in affecting the value of a firm is consistent with Novaes and Zingales (1995), Rajan and Zingales (1995), Chang and Mansor (2004) and Chen, Elder and Hsieh (2005) who find a negative relationship between gearing and the value of a firm. Conversely, the result contradicts the study by Jensen (1986) as he supports a positive relationship between gearing and the value of a firm in a

developed market. In addition, the result does not support the findings by Claessens, Djankov and Pohl (1997) who found a positive relationship between leverage and the value of a firm in the developing market.

The result of the current model is different from the previous studies mentioned above due to different corporate governance instruments used by these researchers. Also, they did not examine both the developed and developing market jointly as carried out in the current study. Studying the combined properties of both the markets can result in a different relationship between debt and the value of a firm.

The result suggests that the corporate governance model for the cross-market analysis based on the conceptual framework has incorporated an important factor in affecting the value of a firm in the developed financial market as we support the negative relationship about the role of debt in affecting the value of a firm in this financial market.

Analysis and Implication for the Developing Market

There is a negative relationship between the value of a firm and debt in the developing market. It is supported from the result that the agency cost between creditors and management is higher than the agency cost between managers and shareholders.

Complementarities in the Developing Market

The result about the relationship of debt with the value of a firm suggests that the agency cost between majority shareholders and managers is not managed properly in concentrated shareholding. The result is not aligned with the foundation of the hybrid based model and does not support the findings by Berglof (1997) as higher debt and concentrated shareholding are not Edgeworth complements of each other in the developing market. Also, the current result suggests that debt does not create value for shareholders, as majority shareholders are generally involved in tunnelling.

Analysis and Implication for the Developed Market

The argument by Heinrich (2002) that gearing creates a negative value for the shareholder in a developed market is supported. The negative relationship shows that agency cost between creditors and management is higher than the agency cost between managers and shareholders.

Complementarities in the Developed Market

The result implies that lower debt and dispersed shareholding are Edgeworth complements in the developed market. Zingales (1995) also suggests that agency cost between shareholders and managers are very well managed in dispersed shareholding and this lays a foundation for the market-based model.

Majority shareholders are absent in developed markets; debt is not handled properly as the agency cost between creditors and management is higher than between management and shareholders. The advantages of debt are less than the associated disadvantages such as the higher agency cost and cost of financial distress. The result also suggests that banks can play an important role in monitoring and can reduce the duplication of effort subsequently, improving the value of a firm as argued by Diamond (1984) and Admati, Pfleiderer and Zechner (1994).

Financial Implication

The financial implication of the result suggests that leveraged firms do not produce value for shareholders in developing and developed financial markets. In addition, the Modigliani and Miller hypothesis is not applicable for the firms of both markets. The result about the negative relationship between the debt and the value of a firm is aligned with the second trade-off theory which states that the benefit gained by firms from a tax shield are offset by the agency cost and the cost of financial distress.

6.4.5 Corporate Governance Provisions

The hypothesis (H6) that improvement in corporate governance provisions increases

the value of the firms of developing market by a higher magnitude is accepted.

The result about regulatory authority efficiency in the cross-market analysis shows that efficiency of a regulatory authority is positively related to the value of a firm in developing and developed markets.

The result was presented in Table 5.4 and is consistent with the findings of Shleifer and Vishny (1997), Karpoff, Marr and Danielson (2000), Black (2001), Claessens and Fan (2002), Klapper and Love (2002) and Bebchuk, Cohen and Ferrell (2004). They suggest a positive relationship between corporate governance and the value of a firm in developing and developed financial markets.

The finding has also supported the views of Berle and Means (1932) who argue that managers create agency costs in a firm because of the separation of ownership and control. In addition, the findings by Black (2001) are also supported, as he suggests that the external corporate governance mechanism is weak in developing markets and there is more room for improvement in corporate governance in these firms.

The hypothesis about the negative role of the majority shareholders is accepted in the developing financial market.

This result presented in Table 6.2 supports the suggestions by Masuyama, Vandenbrink and Yue (1999), Bebchuk, Kraakman and Triantis (2000), Doidge, Karolyi and Stulz (2001) and Pinkowitz, Stulz and Williamson (2003) that majority shareholders increase agency cost more in developing markets compared to developed markets.

According to the result of the hypothesis about the role of majority shareholders in the developing market, we support that blockholders are involved in tunnelling and are extracting their private benefits. Therefore, the result supports the accuracy of corporate governance model for the developing financial market based on the conceptual framework discussed in Chapter 3 explaining the important factors in affecting the value of a firm in this market.

Financial Implication

The result about the role of majority shareholders in the developing market suggests that they do not follow the corporate governance principles and cause firms to have a less than optimal capital structure. In addition, firms of the developing market do not develop an optimal financing policy (dividend, debt and executive remuneration policy) to create value for the shareholders (Nam and Nam, 2004). The value of a firm can be improved by decreasing the weighted average cost of capital in this market as suggested by Morin and Jarrell (2001).

The majority shareholders affect the value of a firm in a negative manner in a developing market due to weak regulatory authorities. Furthermore, there is a responsibility on majority shareholders to monitor the performance of a firm. Also, the cash flow in developing market firms is not governed properly as there is an agency cost between majority shareholders and management (Hunt and Terry, 2004), and managers of these firms do not handle the free cash flow properly. Firms in the developing market can achieve their goals of value creation by effectively using resources and utilising all the available skills, by employing the economical factors of production and by making strategic alliances.

6.4.6 Result of Price to Book Value Ratio

Price to book value ratio is used as a control variable in the model for cross-market analysis. The positive relationship of the variable with the value of a firm is significant at the 5% significance level. The result is similar to the models for the individual markets, as an increase in price to book value ratio leads to an improvement in the value of a firm in developing and developed financial markets.

Analysis

The result about the positive relationship of price to book value ratio with the value of a firm is consistent with corporate governance principles. Price to book value is a reflection of the premium, which a market is willing to pay for the equity of a firm

due to good corporate governance. The higher price to book value ratio also tells us that the firm enjoys a higher premium in the market.

6.4.7 Result of Return on Total Assets

Return on total assets is a control variable in the model for the developing financial markets. The variable is significant at the 10% significance level, which proves that an increase in return on total assets improves the value of a firm. The result about the relationship of return on total assets and the value of a firm is also consistent with corporate governance model relevant for the developing market.

Analysis

The result about the positive relationship of return on total assets with the value of a firm is consistent with corporate governance principles and the findings of Chen, Elder and Hsieh (2005). They have found a positive relationship between the profit of the management and the value of a firm. The result shows that assets used by the firms generate higher returns for investors.

6.5 Implications of the Results of Incremental Regression in Affecting the Value of a Firm in Developing and Developed Financial Markets

The tests for the incremental regression (role of the individual variable in affecting the value of a firm) for all the corporate governance models relevant for the study were presented in Table 5.8. The removal of the price to book value ratio has affected the value of a firm to the largest degree and has substantially decreased R square (portion of the dependent variable explained by the independent variables) in all CGVF models. The results indicate that shareholders are confident about the performance of a firm and reward these firms by investing heavily in them. The result also proves the efficiency of the markets and suggests that these markets are efficient in reflecting the available information in the share prices.

6.6 Implications of the Results of Complementarities of Corporate Governance Instruments

As discussed in Chapter 3, the tests of the complementarities of the internal corporate governance mechanism in affecting the value of firm are performed in the individual CGVF models. Similarly, the role of complementarities in affecting the value of a firm for both the internal and external corporate governance mechanisms is tested in the cross-market analysis. These tests are done to see whether the internal corporate governance mechanisms (board size and CEO duality) are the Edgeworth complements of each other and also whether external (regulatory index) and internal corporate governance mechanisms (board size and CEO duality) are the Edgeworth complements of each other. The tests also highlighted the importance of the combination of corporate governance instruments in improving the value of a firm.

The hypotheses about the role of complementarities in corporate governance instruments gives an insight into the nature of the process by which the value of a firm is affected by the combination of instruments used in developing and developed financial markets. The detailed discussion of these results is given below**.**

6.6.1 Complementarities in the Developed Market

1) The results in Table 5.9 show that removal of CEO duality from the model has no impact on the significance of board size. Thus, the hypothesis (H3a) that the internal corporate governance instruments of CEO duality and board size are Edgeworth complements in developed markets is rejected. In the light of Edgeworth complementarities of the corporate governance instruments, we can say that the CEO does not discipline the board in developed markets. The regulatory mechanism is ineffective and has not forced the CEO to discipline the board and decrease the agency cost among the members. CEO duality in combination with board size does not improve the value of a firm.

2) In the next test, board size is removed from the corporate governance model and it is found that there is no effect on the significance of CEO duality. Thus, the hypothesis (H4a) that the internal corporate governance instruments of board size and

CEO duality are Edgeworth complements in developed financial markets is rejected. The result is reported in Table 5.10 and can be interpreted in the light of Edgeworth complements. The efficient regulatory mechanism does not play any role in decreasing the agency cost between board members, as the board is ineffective in disciplining the CEO.

6.6.2 Complementarities in the Developing Market

1) The hypothesis (H3a) about the complementarities in internal corporate governance instruments namely, that CEO duality and board size are Edgeworth complements in developing market is rejected.

In this test, CEO duality is removed from the corporate governance model for the developing market. The test is performed to check whether the instruments are Edgeworth complement and when combined improve the value of a firm. The removal of CEO had no effect on the significance of board size, which shows the instruments are not Edgeworth complements, as they do not improve the value of a firm in combination with each other.

The CEO duality does not reduce the opportunity cost and improve the marginal benefit of board size decreasing the value of a firm in this case. The CEO does not add value to the shareholders by decreasing the agency cost among the board members in the developing market. Also, the majority shareholders do not play an effective role in disciplining the CEO so that agency cost among the board members can be decreased. In this situation, there is more responsibility on the majority shareholders to monitor the board and CEO, so that value can be created for the shareholders.

2) The hypothesis (H4a) about the complementarities in internal corporate governance instruments in developing market, namely, board size and CEO duality are Edgeworth complements is rejected.

The board size is removed from the model for the developing financial markets and it is found there is no effect on the significance of CEO duality. The result can be

further interpreted in the light of complementarities of corporate governance instruments. In the presence of an inefficient regulatory authority and a concentrated shareholding, board members cannot improve the efficiency of the CEO and create value for shareholders. The majority shareholders should improve the value of a firm and force the board to discipline the CEO to decrease the agency costs among the board members and overcome the free rider problem in the board.

6.7 Implications of the Results of Complementarities in the Cross-market Analysis

The results about the complementarities of corporate governance instruments in affecting the value of a firm are as follows.

1) The hypothesis (H3a) about the role of complementarities that the internal corporate governance instruments of CEO duality and board size are Edgeworth complement is rejected in the developed market.

The result of the hypothesis was presented in Table 5.9 and suggests that the removal of CEO duality from the model has no effect on the significance of board size. The result can be interpreted in light of Edgeworth complements by suggesting that the CEO does not play any role in disciplining the board, as he does not decrease the agency cost among board members in developed markets. Also, the role of the regulatory authority is poor in disciplining the CEO and board members.

2) The hypothesis (H3a) about the role of complementarities that the internal corporate governance instruments of CEO duality and board size are Edgeworth complement in the developing market is rejected.

The test is performed to verify that the instruments are Edgeworth complements and improve the value of a firm in combination. The result shows the effect on the significance of board size after the removal of CEO duality from the CGVF model for the cross-market analysis. There is no effect on the significance of board size, which shows that CEO duality is not an Edgeworth complement of board size. Majority

shareholders do not discipline the CEO, and he does not add value to the shareholders in the developing financial market.

The result suggests that there is a genuine need for majority shareholders to act responsibly and monitor the CEO so that agency cost among the members of board can be decreased and value can be created for shareholders.

3) The hypothesis (H4a) about the complementarity of the internal corporate governance instruments of board size and CEO duality in the developed market is accepted.

The removal of board size from the model has affected the significance of CEO duality. The result suggests that board size is the Edgeworth complement of CEO duality in the developed market as board size improves the marginal benefit and decreases the marginal cost created by CEO duality. It means that the regulatory authority is also efficient and reduces the agency cost among board members ultimately improving the value of a firm.

The result supports the argument built in Chapter 3 about the role of board size and CEO duality in affecting the value of a firm. As the result suggests that the board plays a positive role in disciplining the CEO and forces him to work for the benefit of the firm. In the presence of an efficient board, top management is forced to perform and improve the value of a firm. The result also suggests that the corporate governance model for the cross-market analysis based on the conceptual framework presented in Chapter 3 has incorporated another important factor affecting the value of a firm in this market.

4) The hypothesis (H4a) about the complementarity of the internal corporate governance instruments of board size and CEO duality in the developing market is accepted.

The removal of the board size from the model makes CEO duality insignificant. The result shows that board size is the Edgeworth complement of CEO duality in the developing market as the board improves the marginal benefit and decreases the

marginal cost created by the CEO. The result supports the foundation of the conceptual framework and shows that in the presence of a powerful blockholder, the independent CEO is disciplined and creates value for the shareholders. The majority shareholders play a role of external monitors as they have pushed the board to discipline the CEO. Majority shareholders also decrease the agency cost among the board and ensure that there is no free rider problem in the board, resulting in improvement in the value of a firm.

5) The hypothesis (H1a) about the complementarities of the external corporate governance instrument (procedures) and internal corporate governance instrument (CEO duality) in developing and developed markets is accepted.

The result was presented in the Table 5.11 and proves that the removal of the external corporate governance mechanism makes CEO duality insignificant. The result shows that the regulatory authority and judiciary have a major impact in disciplining a powerful and independent CEO, bringing improvement to the value of a firm in developing and developed markets. Therefore, the result suggests that the corporate governance model for the cross-market analysis based on the conceptual framework in Chapter 3 is successful in explaining the role of an important factor in affecting CGVF relationships in this market.

Furthermore, the existence of a regulatory authority in developing and developed markets is beneficial to shareholders as board members improve the value for shareholders. The regulatory authorities also play a role in disciplining a powerful CEO by limiting his authority to over rule the decisions of the board. The independent CEO creates value for shareholders and is not involved in manipulating the board in this market. On the contrary, the majority shareholders are ineffective in performing their function of monitoring in this case.

6) The hypothesis (H1a) suggesting that the external corporate governance instrument (procedures) is Edgeworth complement of the internal corporate governance mechanism (board size) in the developing and developed markets is rejected.

The result was presented in Table 5.11 and can be interpreted by taking into account

the characteristics of developing and developed financial markets. The regulatory authority plays no role in disciplining the board and does not improve the value of a firm in developing and developed markets. In addition, the agency cost in the board is not minimised, as board members do not monitor the firm properly.

7) The hypothesis (H1b) that the internal corporate governance instruments (board size and CEO duality) are Edgeworth complements to the external corporate governance mechanism (procedures) in developing and developed markets is rejected.

In this test the internal corporate governance mechanisms (board size and CEO duality) are removed and result was reported in Table 5.11. There is no effect on the significance of the external corporate governance instrument (procedures). After the removal of CEO duality and board size, the procedures (regulatory index) still has a negative relationship with the value of a firm. The result shows that the internal corporate governance instruments (CEO duality and board size) do not improve the marginal benefit of the external corporate governance mechanism (regulatory index).

The result also proves that the internal corporate governance mechanism does the job of the external corporate governance mechanism as both the mechanisms are substitutes of each other and do not improve the value of a firm in combination. Also, the internal corporate governance mechanism (board size and CEO duality) has limited the role of the regulatory authority to monitor the firms in the both these markets.

6.8 Corporate Governance and Social Value of a Firm (CGSVF) in Developing Market

The results of the test for CGSVF relationship are presented in Table 5.12 and show that the coefficients of the corporate governance instruments (board size and role of majority shareholding) and control variables (return on total assets and price to book value ratio) are higher in the model including the social value of a firm compared to the CGVF model only. The test suggests that by including a social value aspect in the model for CGVF we could not make the model fit better, but it highlights the importance of the above-mentioned variables in the CGSVF framework.

6.9 Summary and Implications of Results from the Management Perspective in the Developed Market (Australia)

The summary of the results about the relationship between corporate governance and the value of a firm in developing financial markets is as follows.

1) The hypothesis in the model for the developed financial market related to the negative relationship between board size and the value of a firm is accepted. The result supports agency theory as the board members, being agents, look after their own interests.

2) The result of the hypothesis about the role of the debt in affecting the value of a firm suggests a negative relationship between the value of a firm and debt in the developed market. The result supports agency theory, as the agents (executive management) do not handle the debt properly.

3) Market capitalisation is used as a control variable in the study and has a positive relationship with the value of a firm as higher market capitalisation in the developed market leads to improvement in the value of a firm. The result also highlights that the developed market is liquid and transparent, and management improves the value of a firm, supporting stewardship theory in this market.

4) Similarly, the result about the relationship between the price to book value ratio and the value of a firm suggests a positive relationship between the two in a developed financial market. The management of the firm has improved the value of a firm as the actions of the managers support stewardship theory.

5) Finally, the tests for complementarities for corporate governance instruments in affecting the value of a firm suggest that board size and CEO duality do not improve the marginal benefit of each other and the value of a firm in this market. The result supports agency theory, as there is an agency cost among the board members and the CEO/Chairman.

6.10 Summary and Implications of Results from the Management Perspective in the Developing Market (Malaysia)

The summary of the results about the relationship between corporate governance and the value of a firm in developing financial markets is as follows.

1) The hypothesis in the developing financial market about the role of majority shareholders (agency cost) in affecting the value of a firm suggests that majority shareholders are not involved in value creation in developing financial markets. The majority shareholders manipulate the minority shareholders supporting the agency theory in this case.

2) The next test in the developing financial market (Malaysia) is about the negative relationship between board size and the value of a firm. The hypothesis is rejected, as there is a positive relationship between the value of a firm and board size. The result supports stewardship theory, as the interests of the board members are similar to the shareholders' interest.

3) The control variables in the model for developing financial markets such as price to book value ratio, return on total assets and market capitalisation have a positive relationship with the value of a firm. The results are consistent with corporate governance principles as the management improves the value of the firm supporting stewardship theory.

4) Finally, the tests of substitutes and complements in developing financial market suggest that internal corporate governance mechanism, in this case CEO duality and board size, do not improve the marginal benefit of each other in this market supporting agency theory.

6.11 Summary and Implications of the Results from the Management Perspective in Cross-market Analysis

The cross-market analysis about corporate governance and the value of a firm was performed to investigate the combined results of both developing and developed

markets. The results of the combined CGVF model are as follows.

1) The hypothesis about the role of the regulatory authority in affecting the value of a firm suggests that regulatory authority efficiency is positively related to the value of a firm. The hypothesis is accepted and therefore supports agency theory in developing and developed markets.

2) The test in the cross-market CGVF model about the role of CEO duality in affecting the value of a firm suggests that a dual leadership structure is not harmful for firms of both developing and developed markets. The result supports the stewardship theory as both CEO and Chairman serve as stewards to the shareholders.

Table 6.4

Summary of Results of Complementarities of Corporate Governance Instruments in all Three Models

Variables	Internal corporate governance mechanism	Internal and external corporate governance mechanism	External corporate governance mechanism
Australia	No change is caused by board size and CEO duality after their removal from the model.		
Result	Rejected hypothesis.		
Malaysia	No change is caused by board size and CEO duality after their removal from the model.		
Result	Rejected hypothesis.		
Combined	After removing duality there is no effect on the significance of board size. On the contrary, removal of board size made the CEO duality insignificant.	The removal of board size and CEO duality had no effect on the significance of procedures.	Removal of procedures from the model makes the CEO duality insignificant, but the removal has no impact on the significance of board size.
Result	Rejected hypothesis in the first case. Accepted hypothesis in the second case.	Rejected hypothesis.	Accepted hypothesis in the first case and rejected hypothesis in the second case.

3) The next test in the model for cross-market analysis suggests that there is a negative relationship between the value of a firm and debt in developed financial

markets. The hypothesis is accepted and supports agency theory. On the contrary, the hypothesis about the role of debt in the developing market is rejected as debt is negatively related to the value of a firm. The result also supports agency theory in this case.

4) The tests about the relationship of control variables and the value of a firm such as price to book value ratio and return on total assets in affecting the value of a firm show a positive relationship in both developing and developed financial markets. The result supports stewardship theory in these markets as assets create value for the shareholders.

5) The tests for complementarities of corporate governance instruments in affecting the value of a firm are presented in Table 6.4 and show that board size is an Edgeworth complement of CEO duality, supporting stewardship theory. These instruments in combination improve the value of a firm. On the contrary, CEO duality is not an Edgeworth complement of board size and does not improve the value of a firm in developing and developed financial markets supporting the agency theory in these markets.

6) Furthermore, in the tests of Edgeworth complements about the external and internal corporate governance mechanisms, we have found that the external corporate governance instrument regulatory index is Edgeworth complement of the internal corporate governance mechanism (CEO duality). So, it is supported that the regulatory authority disciplines the CEO/Chairman and both the instruments improve the value of a firm in these markets supporting stewardship theory. On the contrary, the external corporate governance mechanism (regulatory index) is not an Edgeworth complement of board size. Both the instruments in combination do not improve the value of a firm supporting agency theory in developing and developed financial markets.

7) Finally, in tests for Edgeworth complements of internal and external corporate governance instruments, we have found the internal corporate governance instruments of board size and CEO duality do not encourage the external corporate governance mechanism (procedures) to improve the value of a firm. The result supports agency

theory in these markets as both the instruments (internal and external) in combination does not improve the value of a firm.

6.12 Conclusion

The current chapter has discussed the implications of the results for the relationship between corporate governance and the value of a firm in developing and developed financial markets and tests for the significance of hypotheses relevant for both markets. The hypotheses regarding the relationship between the value of a firm and corporate governance are based on the variables used in all the econometric models relevant for the study. We have discussed the financial and corporate governance theory from the econometric results generated in this study. These results are driven by individual models, a cross-market model, an incremental investigation and an analysis of substitutes and complements in developing and developed financial markets. The results reveal that there is a positive relationship between the value of a firm and corporate governance in both developing and developed financial markets and the new conceptual framework is successful in incorporating the factors affecting the relationship between the value of a firm and corporate governance in these financial markets. Corporate governance and the value of a firm are different in developing and developed financial markets and also the process by which the value of a firm affects the corporate governance in these financial markets is different. In the next chapter, we will discuss the summary, conclusions and scope for further extensions.

Chapter 7
Summary, Findings and Conclusions

7.1 Introduction

This chapter summarises the discussion about corporate governance, the value of a firm and their relationship in developing and developed financial markets. In addition, the difference in the process by which the value of a firm is affected by corporate governance instruments in these financial markets is highlighted. A short summary of the literature review, methodology, hypotheses development, hypotheses testing, econometric results and conclusions are also presented. The chapter is structured as follows. Section 7.2 introduces corporate governance, the value of a firm and the instruments affecting their relationship. Section 7.3 discusses the complementarities of corporate governance instruments. Section 7.4 presents the differences in corporate governance and the value of a firm in developing and developed financial markets. Section 7.5 presents the existing literature about corporate governance and the value a firm. Section 7.6 explains the hypotheses development for the study. Sections 7.7 and 7.8 discuss the methodology and the results of the study. Section 7.9 presents the discussion about the process by which the corporate governance instruments affect the value of a firm. Section 7.10 discusses the policy implications. Section 7.11 presents the contribution to the literature. Sections 7.12 and 7.13 describe the scope for future research and conclude the study.

7.2 Corporate Governance, the Value of a Firm and the Instruments/Variables in Developed and Developing Financial Markets

This section aims at summarising some of the relevant definitions in the existing literature as various researchers have defined corporate governance differently. Morin and Jarrell (2001) define corporate governance as the mechanism necessary to safeguard the interests of shareholders, stakeholders and managers in the market. The role of managers in implementation of corporate governance is important, as they play a positive role in improving the value of a firm.

In return, the management rewards managers adding value to the existing firms, Mathiesen (2002). The author further argues that managers should be given fair compensation so they can concentrate on investing in positive net present value projects, which create value for the shareholders.

Corporate governance definitions are limited in their inclusion of the important factors affecting CGVF relationships in developing and developed financial markets.
The value of a firm can be defined as the utility driven by the shareholders by holding the shares of a firm. The key measures used to value a firm in the markets are Tobin's Q, price to book value ratio, price earning ratio, net present value and internal rate of return. Due to additional factors affecting the value of a firm in the developing market, the above-mentioned measures are limited to evaluate the firms of this market.

Corporate governance instruments are important in affecting the value of a firm in the developing and developed financial markets. These instruments and their significance are described as follows.

7.2.1 Role of Independent Auditor

Independent auditors have a responsibility to play an important role in improving the value of a firm by conducting the audit on an independent basis. The board can also discipline independent auditors for the benefit of the shareholders as suggested by Tomasic and Bottomley (1993) and Tomasic, Pentony and Bottomley (2003).

7.2.2 Board Size

The board size is an important determinant of the corporate governance mechanism as argued by Bain and Band (1996). A larger board is associated negatively with the value of a firm as suggested by Yermack (1996) and Eisenberg, Sundgren and Wells (1998). A board size is not optimal for value creation in developing market and harms shareholders interests in these markets (Nam and Nam, 2004).

7.2.3 Role of CEO

Corporate governance principles suggest that the role of the CEO is important in improving the value of a firm as they have the most responsibility in managing the firm. In addition, the management of a firm can improve its value by linking the salary and incentives of a CEO with their performance. The presence of a powerful CEO provides leadership to the firm and sends the right signals to shareholders in the financial market.

7.2.4 Role of Managers

The managers of a firm play an important role in affecting the value of a firm. They can follow corporate governance principles and improve the value of a firm by avoiding under and over investment. The purpose of management should be to add value to the shareholders as demonstrated by Colombo and Stanca (2006).

7.2.5 Social Value of a Firm

Social value plays an important role in affecting the value of a firm in the developing financial markets, as there are market imperfections and often social, political and economic chaos. Furthermore, corporate law is weak and external corporate governance mechanism does not exist in these markets.

7.2.6 CEO Duality

CEO duality is an important corporate governance instrument in improving the firm's performance. The literature suggests that CEO duality is negatively related to the value of a firm, because the CEO as Chairman can dominate the board and overrule its decisions (White and Ingrassia, 1992). On the contrary, CEO duality can improve the performance, as there is no agency cost between the CEO and Chairman in a firm having a dual leadership structure as suggested by Brickley, Coles and Jarrell (1997).

7.2.7 Role of Information Asymmetry

Information asymmetry plays a negative role in affecting the value of a firm (Colombo and Stanca, 2006). The management of firms in the developing market often cannot provide accurate information to the shareholders. The shareholders face problems of moral hazard and information asymmetry caused by uneven spread of information in developing financial markets (Nenova, 2003).

7.2.8 Corporate Governance in the Developing Market

As argued in Chapter 2, corporate governance in a developing market is different from that in a developed financial market. The nature of differences in the relationship between corporate governance and the value of a firm in these two markets is to a large extent produced by the poor role of the external corporate governance mechanism in developing markets. Also, the presence of majority shareholders affects the value of a firm in a negative manner because they are, for example, involved in tunnelling as highlighted by Bebchuk, Kraakman and Triantis (2000) and Pinkowitz, Stulz and Williamson (2003).

Agency costs are also higher in a developing market compared to a developed market due to market imperfections, inadequate management and the adverse role of the majority shareholders. In addition to these costs (bonding, residual and monitoring costs), firms in developing markets cannot make optimal financing (dividend and investment) policies causing disadvantage to the shareholders (World Bank, 2003).

7.3 Complementarities of CGVF in Developing and Developed Markets

As discussed in Chapter 2, the management of a firm can also use corporate governance instruments in combination compared to in isolation and further improve the value of a firm. The Edgeworth complements can be used to decrease the opportunity cost of a single instrument by effectively using it in conjunction with the other instruments. The role of Edgeworth combination differs in developed and developing markets.

The Edgeworth combinations in developing markets are weak regulatory authority, illiquid market, a high amount of leverage, independent salary of executive management, inefficient market and concentrated shareholdings. While, the Edgeworth complements in the developed financial markets are efficient regulatory authority, less leveraged firms, linked salary of the management to their performance, efficient market and dispersed shareholding. As explained in Chapter 2, the process by which the combination of corporate governance instruments affects the value of a firm in a developing market is different from the developed financial market (Heinrich, 1999).

There is a need to perform econometric studies to analyse the role of these complementarities in affecting the value of a firm in developing and developed financial markets.

7.4 Differences in the CGVF Relationships in Developing and Developed Financial Markets

As we have discussed in Chapter 2, corporate governance is different in developing and developed financial markets due to the additional factors affecting corporate governance in developing financial markets. These factors include an unstable government, high inflation, weak regulatory regime, rudimentary financial sector and high level of corruption. These factors also affect the process by which the value of a firm is affected in the developing market making it different from the process in a developed financial market.

7.5 Existing Literature about CGVF in Developing and Developed Financial Markets

The usefulness of the corporate governance literature in explaining the relationship between the value of a firm and different corporate governance instruments is limited by the diverging views held by the researchers in this area. These views are discussed in Chapter 2 and talk about the role of board size, CEO duality, debt and majority shareholders in affecting the value of a firm in developing and developed markets. Also, additional factors affecting the relationship between the value of a firm and

corporate governance instruments in developing financial markets have not been considered in prior studies on this CGVF relationship.

Due to these limitations in the literature, a new conceptual framework which considers all the important factors affecting CGVF relationships has been constructed and a comparative analysis between developing and developed financial markets is performed. In addition, the results of the study are also interpreted in light of management theories.

7.6 Hypotheses about the Relationship of CGVF in Developing and Developed Markets

As discussed in Chapter 3, three models are presented based on the new conceptual framework and consider the important factors affecting the value of a firm in developing and developed financial markets. A cross-market analysis is also performed and the results of this model are applicable to both types of markets.

The hypotheses in the current study are about the internal and external corporate governance mechanisms and their effect on the value of a firm for developing, developed and cross-market analysis. The first hypothesis (H1) is about the external corporate governance instruments of efficiency of the regulatory authority and judiciary. The hypothesis suggests that efficiency of the regulatory authority is positively related to the value of a firm in developing and developed financial markets. Furthermore, the hypotheses (H1a and H1b) suggest that external (regulatory authority) and internal (CEO duality and board size) corporate governance instruments are Edgeworth complements of each other.

The second hypothesis (H2) is about the role of majority shareholders in affecting the value of a firm. The role of majority shareholders in developing and developed markets is hypothesised as negative because there is an agency cost between majority and minority shareholders in the developing market. Similarly, there is an agency cost between managers and shareholders in the developed financial market.

The next hypothesis (H3) concerns the relationship of CEO duality with the value of a firm. This hypothesis suggests that a single person performing the role of CEO and Chairman is detrimental for shareholders. The logic behind this argument is that a powerful CEO can easily dominate the board and over rule its decisions. In addition, the hypothesis (H3a) suggest that CEO duality is the Edgeworth complement of board size in developing and developed financial markets.

The fourth hypothesis (H4) in the CGVF model for the developing and developed financial markets is based on the view that a board bigger than the optimal size has a negative relationship with the value of a firm. The hypothesis suggests that a bigger board magnifies the agency cost in a firm. The hypothesis (H4a) also suggests that board size is the Edgeworth complement of CEO duality.

The fifth hypothesis in the CGVF model considers the role of debt in affecting the value of a firm. The relationship between debt and the value of a firm is expected to be negative in the developed market (H5a) because of dispersed pattern of shareholders typical in this market. On the contrary, relationship between the debt and the value of a firm is expected to be positive in developing markets (H5b).

The sixth hypothesis (H6) in the CGVF model for the developing and developed financial markets suggests that firms in developing markets have more room for improvement compared to firms operating in a developed market because of their current lack of corporate governance provisions.

In addition, it is also suggested that firms can improve the value of the shareholders by creating social value in the community. There are additional social and economic problems in developing markets compared to developed markets, which suggest a higher need of creating social value of the firms in this market. These problems include unemployment, crime and pollution in a society. Alleviating these problems by increasing employment opportunities for the people can ultimately improve the social value of the shareholders in both developing and developed markets.

The results of the complementarities and hypotheses testing will also explain the differences in the nature of the process by which the value of a firm is affected in developing and developed financial markets.

7.7 Methodology of the Current Study

As discussed in Chapter 4, the hypotheses in this study are based on variables relevant to the firms in developing and developed financial markets. The dependent variable in the study is Tobin's Q and independent variables are board size, price to book value ratio, gearing, return on total assets, shareholders concentration (agency cost), market capitalisation, CEO duality and procedures.

The secondary method of data collection was used to collect data as the data for the variables was collected form the websites and published sources. Eviews software is used for econometric results and SPSS software for running the factor analysis and calculating the descriptive statistics for all the models of the study.

7.8 Results and Implications of the CGVF Models for Developing and Developed Financial Markets

7.8.1 Results of Descriptive Statistics

The descriptive statistics for return on total assets, price to book value ratio, market capitalisation and Tobin's Q show that Australian firms create more value for shareholders compared to Malaysian firms.

The descriptive statistics for gearing ratio and CEO duality show that firms in the developing (Malaysia) market are less leveraged compared to firms in the developed (Australia) market. Furthermore, firms of developing market have a bigger board and concentrated shareholdings, which highlights a greater need for corporate governance in this market.

7.8.2 Results and Implications for the Developed Market

As discussed in Chapter 5, the first model in the current study is based on Australian companies representing firms in a developed market. The results and implication of these tests are as follows.

The first test in the model for CGVF for the developed financial markets suggests a lack of relationship between CEO duality and the value of a firm.

The next test supports a negative relationship between the value of a firm and board size, as members of a bigger board do not perform their fiduciary duties. The result supports the agency theory and lends credence to the claim that this model for the developed market along with the conceptual framework it is based upon is successful in incorporating the relevant factors affecting the CGVF relationship in the developed market.

The third test is about the role of debt in affecting the value of a firm in a developed market. The result suggests a negative relationship between the value of a firm and a higher level of debt. This is consistent with the findings in the existing literature that dispersed shareholding and low leverage are the Edgeworth complements of each other in the developed financial market. The result helps support the assertion that the model for the developed market has considered the important factors affecting the CGVF relationship in this market. The result also suggests that capital structure matters in the operation of a firm in the developed market.

The control variable (market capitalisation) has a positive relationship with the value of a firm in developed financial market. The finding is consistent with corporate governance principles as a liquid market and dispersed shareholding are the Edgeworth complements and these instruments together improve the value of a firm (Heinrich, 2002). The firms in a developed market should issue more shares to further improve their value.

Similarly, the price to book value ratio also has a positive relationship with the value of a firm. The result suggests that firms produce value for shareholders and that the market also rewards the firm in developed financial markets.

Results of Complementarities and their Implications for Developed Market

As proven in Chapter 6, the results concerning the complementarities of corporate governance instruments in the developed financial market suggest that board size and CEO duality neither improve the marginal benefit nor decrease the marginal cost of each other in the developed market. The results also suggest that internal corporate governance instruments do not complement each other especially in the presence of a powerful regulatory regime typical of a developed market. The result supports agency theory in this case.

7.8.3 Results and Implications for the Developing Market

As discussed in chapter 5, testing of the hypotheses was carried out for the developing market. The results of hypotheses testing are as follows.

The result of the first test suggests that majority shareholders are involved in tunnelling and there is a need for a strong regulatory authority to discipline the majority shareholders in the developing financial market. The result supports agency theory and endorses the statement that this model incorporates the important factors discussed in Chapter 3 in affecting the relationship between majority shareholders and the value of a firm in developing markets.

The result of the second test suggests that CEO duality has no relationship with the value of a firm in a developing financial market. The result indicates that top management does not play a significant role in affecting the value of a firm.

The result of the third test suggests a positive relationship of board size and the value of a firm. The larger board improves the value of a firm, as the majority shareholders are successful in disciplining the bigger board supporting stewardship theory in this market.

The results about the relationship of the control variables such as price to book value ratio and return on total assets in affecting the value of a firm show a positive relationship among them. Similarly, market capitalisation has a positive relationship with the value of a firm, suggesting that a liquid market creates value for shareholders in a developing market. These findings are consistent with general corporate governance principles and supports stewardship theory. On the contrary, the result does not support the argument by Berglof (1997) as the concentrated shareholding does not complement an illiquid financial market.

Results of Complementarities and their Implications for Developing Market

The tests of substitutes and complements in developing financial markets suggest that the instruments (board size and CEO duality) do not improve the marginal benefit of each other in this market, supporting agency theory. The result implies that in the presence of powerful blockholders there is a little role left for internal corporate governance instruments to improve the value of a firm

Results of Incremental Regression and their Implications for Developing and Developed Markets

As discussed in chapter 5, the tests about the importance of individual variables in affecting the value of a firm suggest that price to book value ratio is the most important variable in all the models. A significant change in R squared by removal of this variable suggests that developed and developing market enjoy a high level of good will. The market premium and confidence from investors also improves the value of a firm in these markets.

7.8.4 Results and Implications for the Cross-market Analysis

The results of the cross-market analysis can be generalised for developing and developed markets are as follows.

The outcome of testing the first test concerning the effect of the role of external corporate governance mechanism on the value of a firm shows that a negative

(positive) relationship exists between an inefficient (efficient) regulatory authority and the value of a firm. The result supports agency theory as an effective regulatory authority can decrease the agency cost between managers and the shareholders. The result further supports the model for cross-market analysis by incorporating an important factor, which establishes the relationship between an efficient regulatory authority and the value of a firm in these markets.

Looking at the results from a different perspective we can say that an effective regulatory authority can create an imbalance among the synchronisation of different corporate governance instruments in a hybrid system as the effective role of majority shareholders is important in improving the value of a firm in this system and can be affected by the presence of a strong external authority.

The results of the second test in the CGVF model for cross-market analysis shows that CEO duality has a positive relationship with the value of a firm. The result supports stewardship theory as an independent CEO improves the value of a firm in these markets and suggests that the salary of a CEO can be linked to his performance to bring improvement in the value of a firm.

The third test about the role of board size in affecting the value of a firm in the cross-market analysis shows no relationship between either developing or developed financial markets.

The fourth test relates to the role of debt in affecting the value of a firm. It was found that debt has a negative relationship with the value of a firm in these markets. The result is consistent with corporate governance principles in developed financial markets and points out the consistency of the cross-market analysis based on the conceptual framework presented in Chapter 3, in explaining the CGVF relationship in developed market.

On the contrary, the result concerning debt in the developing market does not support previous findings, as a higher debt is the Edgeworth complement to the concentrated shareholdings (Berglof, 1997). Debt in developing and developed markets is not

beneficial and the capital structure enjoys a significant place in the operation of these firms. The results are consistent with the second trade-off and agency theory.

The hypothesis that firms in the developing market can improve their value to a higher degree compared to firms in the developed market is accepted. The hypothesis is accepted as the efficiency of the regulatory authority is positively related to the value of a firm and majority shareholders deteriorate the value of a firm in the developing market. The results support agency theory and confirm that conceptual framework is successful in considering the important factors affecting the value of a firm in the developing and developed financial markets.

The result about the relationship between the control variable (price to book value ratio) in affecting the value of a firm shows that there is a positive relationship between the two in both developing and developed markets. The assets in these markets create value for the shareholders.

Similarly, return on total assets has a positive relationship with the value of a firm. The result is consistent with the model for the developing market and suggests that the assets generate returns for shareholders in both developing and developed financial markets. The finding is also consistent with corporate governance principles.

Results of Complementarities and their Implications for Cross-market Analysis

The removal of CEO duality from the model of corporate governance for cross-market analysis has no impact on the significance of board size. The result shows that CEO and Chairman do not discipline the board and so do not improve the value of a firm supporting agency theory.

On the contrary, board size is the Edgeworth complement of CEO duality as board disciplines the Chief Executive Officer (CEO) in both developed and developing financial markets. Board size improves the value of a firm and decreases the marginal cost created by CEO duality. It is suggested that the board of directors can be used as a powerful monitor in the developing and developed market to discipline the CEO and improve the value of a firm. The result supports stewardship theory and suggests that

conceptual framework explains the important factors in affecting value of a firm in these markets.

The removal of the external corporate governance mechanism (procedures) has affected the significance of CEO duality. The test suggests that regulatory authorities and board discipline the Chief Executive Officer (CEO) and compels him to create value for shareholders, supporting stewardship theory. On the contrary, the regulatory authority is not the Edgeworth complement to board size in these markets and these instruments do not improve the value of a firm in combination with each other, supporting agency theory.

The results for the tests of complementarities of external and internal corporate governance instruments in affecting the value of a firm show that the internal corporate governance instruments (board size and CEO duality) are not the Edgeworth complement to the external corporate governance instrument (procedures). The results also show that the internal corporate governance mechanism is a substitute of the external corporate governance mechanism in developing and developed markets supporting agency theory.

7.9 Results and the Process by which the Corporate Governance Instruments Affect the Value of a Firm

The results about the CGVF relationships for the developed market show that the board size has a negative relationship with the value of a firm. The result implies that a smaller board improves the value of a firm, which supports the process suggesting that bigger board increases the agency cost in the firm and decrease its value. Similarly, leverage has a negative relationship with the value of a firm in the developed market, which is consistent with the literature and supports the process, which suggests that higher debt and dispersed shareholding do not improve the value of a firm in combination. On the contrary, market capitalisation and price to book value ratio have a positive relationship with the value of a firm and support the concept that value-creating assets and liquidity in the market improve the value of the shareholders.

The results about the relationship of CGVF for developing financial markets support the view that majority shareholders are involved in tunnelling and also support the process, which suggests that the majority shareholders manipulate the minority shareholders in this market. In addition, higher returns on total assets, market capitalisation and price to book value ratio improve the value of a firm in the developing financial market. The higher returns on total assets and price to book value show that the assets generate satisfactory returns. Similarly, the higher market capitalisation shows that the market is efficient in reflecting the true information in the share prices. This mechanism, by which the value of firm is improved, is supported.

Results about the cross-market analysis show that debt has a negative relationship with the value of a firm. The result is consistent with the literature on developed markets presented in Chapter 2, and supports the explanation that lower debt is the Edgeworth complement of dispersed shareholdings in the developed financial market, and in combination they represent the process by which the value of a firm is affected.

The result on the role of the regulatory authority in developing and developed financial markets shows that an efficient regulatory authority improves the value of a firm. The result supports the process, which suggests that the efficient regulatory authority decreases the value of a firm in these markets.

The control variables such as price to book value ratio and return on total assets show that the firms in these markets are healthy and create value for the shareholders. This supports the process, which explains that, efficient usage of assets and liquidity in the market improve the value of a firm in these markets.

The results about the complementarities of internal corporate governance instruments (board size and CEO duality) in affecting the value of a firm in the cross-market analysis suggest that the board size in combination with the CEO duality improve the value of a firm. The results are consistent with the process, which suggests that both these instruments in combination decrease the agency cost and improve the value of a firm in these markets.

Similarly, the results about the complementarities of external corporate governance instruments in affecting the value of a firm in the cross-market analysis suggest that it is the regulatory authority, which encourages the CEO to improve the value of a firm. The process, which suggests that these instruments assist each other in the developing and developed financial markets, is supported.

7.10 Policy Implications for Developing and Developed Countries

The results about the CGVF relationship for the developed market suggest that higher debt and a bigger board are harmful to firms in this market. These firms should consider the internal generation of funds and should have a smaller board to achieve value creation for shareholders. Also, the regulatory authorities should work towards making these markets transparent and efficient as these features improve the value of the shareholders in developed markets.

On the contrary, the results of the model for developing financial markets suggest that the rights of minority shareholders should be safeguarded to improve the value of a firm. A bigger board and an efficient and transparent market create value for shareholders in this market.

The results of the cross-market analysis show that lower debt should be used to improve the value of firms in these markets. The role of board and strong regulatory regime is also important to discipline the CEO and improve the value of a firm in these markets. Finally, the dual leadership structure can be used to improve the value of a firm in both the markets.

Some results about the CGVF relationships are different in developing and developed financial markets due to differences in the social political and cultural conditions of these two markets and imply that different corporate governance policies should be used to improve the value of a firm in these markets. Conversely, some results in the CGVF model are similar for developing and developed financial markets implying that same corporate governance policies should be used in these markets to improve the value of a firm.

7.11 Contribution to the Literature

This study has highlighted the role of corporate governance in effective utilisation of assets to improve the value of a firm. In addition, the role of the board and regulatory authority is important in disciplining the CEO and majority shareholders in the financial markets. The study supports the differences in the process by which the value of a firm is affected in developing and developed financial markets. The irrelevance of the Modigliani and Miller hypothesis in these markets is also supported. The result suggests that second trade-off theory and agency theory hold more importance in developing and developed financial markets. The study has also extended the findings about the role of complementarities of the corporate governance instrument in affecting the value of a firm in these financial markets.

The results of the study support the central argument in the thesis that economic, social, organisational and institutional structures and systems in a developing country (Malaysia) are different form a developed country (Australia). It appears that agency theory can provide more insights in explaining the CGVF relationship in developing compared to developed financial markets in this study. Various organisational and management theoretical perspectives apply and differences in these perspectives are particularly useful in explaining the differences in the CGVF relationship in developed and developing markets.

7.12 Recommendations for Future Research

This section covers the recommendation for future research. Some limitations of the current study are also presented.

The data used for the current study was derived from sixty companies for each (developing and developed) market. A larger data set may result in a different model of the relationship between corporate governance and the value of a firm. The inclusion of new corporate governance instruments could result in additional Edgeworth combinations of the internal corporate governance mechanism. Different control variables and corporate governance instruments could reveal a new relationship between the value of firm and corporate governance.

Similarly, corporate governance instruments such as capital structure, shareholding by the management, CEO tenure, banking efficiency, political regime and executive remuneration can be used to test the relationship with the value of a firm. The categorisation on the basis of bank based and market based financial system and civil and common-law economies can lead us to the different type of relationship among the value of a firm, corporate governance instruments and control variables.

In the current study, the shareholding is directly acquired from the balance sheet of the firms of developing and developed financial markets. Malaysian firms observe pyramidal and cross-shareholding, which suggests that real ownership by various groups and role of founding families in affecting the value of a firm is still unexplored. Alternate measures of agency cost (dummy variable) in the firms may give us a different relationship of the variable with the value of a firm.

Similarly, tests of complements and substitutes of corporate governance instruments can be performed by including new instruments such as level of debt, role of creditors and role of incentives to the management. Furthermore, corporate governance tests relevant for an insider model and tests for complementarities of corporate governance instruments in the insider model are still an open ground for research as the models used in this and previous studies are based on corporate governance instruments relevant for hybrid and outsider models.

Factor analysis was used to examine the correlation between dependent and independent variables in the model. Unfortunately, the data was not suitable to perform further tests and complete the process of factor analysis. A larger dataset sampling more firms over a longer time period would allow researchers to complete the process of factor analysis. Factors can be used in regression to test their relationship with the value of a firm. These factors will have more explanatory power compared to individual variables in explaining the change in the explained variable (Tobin's Q).

The CGVF models of the developing and developed markets in this study are developed in certainty and are deterministic in nature. CGVF models developed in

uncertainty may give different relationships of corporate governance and the value of a firm. Also, the business cycles in the economy have an impact on corporate governance, the value of a firm and their relationship. In boom times, stakeholders may tolerate bad corporate governance and investors may over invest improving the value of a firm in this period. This process is reversed in a period of slump. This aspect of the CGVF relationship has not been studied in this thesis since the data necessary for covering the empirical evidence over a number of business cycles was not available for the study. Future research could test the CGVF relationship in different business cycles.

Finally, corporate social responsibility in the developing and developed markets can play an important role in improving the value of a firm. Due to lack of data, the study has been unable to measure the corporate social responsibility in the firms of developing and developed markets. The corporate social responsibility (CSR) index can be constructed and the impact of CSR on the value of a firm can be tested in future studies.

7.13 Conclusion

This final chapter has discussed corporate governance and the value of a firm, and their relationship in developing and developed financial markets. Factors important for effective corporate governance and in improving the value of a firm in developing and developed markets have also been discussed. Furthermore, discussion about the literature review, methodology, hypotheses development, hypotheses testing and results of the models, policy implication and conclusions of the study have been presented. The study supports that there is a positive relationship between corporate governance and the value a firm, but the process by which the value of a firm is affected in developing and developed markets is different. The results also support the central argument in the thesis that the economic, social organisational and institutional systems in place in a developing country (Malaysia) are different from that of a developed country (Australia). Different economic and management theories have different relevance, and reflect the real differences in the CGVF relationships. The study suggests that econometric tests be carried out on a larger dataset covering more firms over an extended period of time for an insider corporate governance model. This

could result in a novel perspective on the relationship between corporate governance and the value of a firm and new policy implications.

References

Admati, A, Pfleiderer, P and Zechner, J 1994, 'Large shareholder activism, risk sharing and financial market equilibrium', *Journal of Political Economy,* vol. 102, no. 6, pp. 1097-1130.

Aghion, P and Bolton, J 1992, 'An incomplete contracts approach to financial contracting', *Review of Economic Studies,* vol. 59, no. 3, pp. 473-494.

Agrawal, A and Knoeber, C 1996, 'Firm performance and mechanisms to control agency problems between managers and shareholders', *Journal of Financial and Quantitative Analysis,* vol. 31, no. 3, pp. 377-397.

Ahunwan, B 2003, *Globalization and Corporate Governance in Developing Countries*, Transnational Publishers, New York.

Alexander, J, Fennell, M and Halpern, M 1993, 'Leadership instability in hospitals: the influence of board-CEO relations and organization growth and decline', *Administrative Science Quarterly,* vol. 38, pp. 74-99.

Allen, F and Gale, D 2001, *Comparing Financial Systems,* MIT Press, Cambridge.

Anderson, C and Anthony, R 1986, *The New Corporate Directors*, John Wiley and Sons, New York.

Anderson, J, Baldwin, A, Betts, M, Carter, C, Hamilton, A, Stokes, E and Thorpe, T 2000, 'A framework for measuring IT Innovation Benefits', *ITcon,* vol. 5, pp. 57-72.

Asian Development Bank and World Bank 1998, Managing global financial integration in Asia: emerging lessons and prospective challenges, mimeograph.

Asian Development Bank 1996, *Asian Development Bank Outlook 1996*, Oxford, Hong Kong.

Asian Development Bank 1997, *Asian Development Bank Outlook 1997*, Oxford, Hong Kong.

Bain, N and Band, D 1996, *Winning Ways Through Corporate Governance*, Macmillan Press Ltd, London.

Banks, E 2004, *Corporate Governance, Financial Responsibility Control and Ethics*, Palgrave Macmillan, New York.

Bartol, K, Tein, M Matthews, G and Martin, D (eds) 2005, *Management: A Pacific Rim Focus*, McGraw Hill lrwin, Sydney.

Batten, J and Fetherston, T (eds) 2003, *Social Responsibility: Corporate Governance Issues Research in International Business and Finance*, vol. 17, Elsevier, Oxford.

Bauer, R, Gunster, N and Otten, R 2003, 'Empirical evidence on corporate governance in Europe: the effect on stock returns, firm value and performance', *Journal of Asset Management*, vol. 5, no. 2, pp. 91-104.

Baysinger, B and Butler, H 1985, 'Corporate governance and board of directors: performance effects of changes in board composition', *Journal of Law, Economics and Organization*, no. 1, pp. 101-124.

Bebchuk, L, Cohen, A and Ferrell, A 2004, 'What matters in corporate governance?', working paper, Harvard Law School, Boston.

Bebchuk, L, Kraakman, R and Triantis, G 2000, 'Stock pyramids, cross-ownership, and dual class equity: the creation and agency costs of separating control from cash flow rights', in R Morck (ed.) *Concentrated Corporate Ownership*, University of Chicago Press, Chicago, pp. 295–318.

Beiner, S and Schmid, M 2005, 'Agency conflicts, corporate governance, and corporate diversification evidence from Switzerland', SSRN, available at : http://papers.ssrn.com/sol3/papers.cfm?abstract_id=666264#PaperDownload, accessed 15 Feb 2007.

Beiner, S, Drobetz, W, Schmid, F and Zimmermann, H 2004, 'Is board size an independent corporate governance mechanism?', *Kyklos*, vol. 57, no. 3, pp. 327-356.

Berghe, L 2002, *Corporate Governance in a Globalising World: Convergence or Divergence? A European Perspective*, Kluwer Academic Publishers, Boston.

Berglof, E 1997, 'Reforming corporate governance: redirecting the European agenda', *Economic Policy*, vol. 12, no. 4, pp. 93-123.

Berle, A and Means, G 1932, *The Modern Corporation and Private Property*, Macmillan, New York.

Bhagat, S and Black, B 1999, 'The uncertain relationship between board composition and firm performance', *The Business Lawyer*, vol. 54, no. 3, pp. 921-963.

Bhagat, S and Black, B 2002, 'The non-correlation between board independence and long-term firm performance', *Journal of Corporation Law*, vol. 27, no. 2, pp. 231-273.

Bhagat, S and Jefferis R 1994, 'The causes and consequences of takeover defense: evidence from green mail', *Journal of Corporate Finance,* vol. 1, no. 2.

Bhagat, S and Jefferis, R 2002, *The Econometrics of Corporate Governance Studies*, MIT Press, Cambridge.

Bishop, S, Faff, R, Oliver, B and Twite, G 2004, *Corporate Finance,* 5th edn, Prentice Hall, Sydney.

Black, B 2001, 'Does corporate governance matter? A crude test using Russian data', *University of Pennsylvania Law Review*, vol. 149, no. 2, pp. 2131-2150.

Black, B, Jang, H and Kim, W 2003, 'Does corporate governance affect firms' market values? Evidence from Korea', working paper no. 237, Stanford Law School, Stanford.

Black, B, Love, I and Rachinsky, A 2006, 'Corporate governance indices and firms' market values: time series evidence from Russia', *Emerging Markets Review*, vol. 7, pp. 361-379.

Bose, S 2004, 'A valuation process for intellectual property in a technology park environment', DBA, Thesis, Victoria University, Melbourne.

Boyd, B 1994, 'Board control and CEO compensation', *Strategic Management Journal,* vol. 15, no. 55, pp. 335-344.

Brian, C 1997, *Company Law: Theory, Structure and Operation*, Clarendon Press, Oxford.

Brickley, J, Coles, J and Jarrell, G 1997, 'Leadership structure: separating the CEO and chairman of the board', *Journal of Corporate Finance*, vol. 3, pp. 189-220.

Brooks, C 2002, *Introductory Econometrics for Finance*, Cambridge University Press, Cambridge.

Cadbury 1992, *The Cadbury Committee Reports: Financial Aspects of Corporate Governance*, Burgess Science Press, London.

Campbell, J, Lo A, MacKinlay A, 1997, *The Econometrics of Financial Markets*, Princeton University Press, New Jersey.

Capulong, V, Edwards, D, Webb, D and Zhuang, J 2000, *Corporate Governance and Finance in East Asia: A Study of Indonesia, Republic of Korea, Malaysia, Philippines, and Thailand*, vol. 1, Asian Development Bank, Manila.

Chaganti, R, Mahajan, V and Sharma, S 1985, 'Corporate board size, composition and corporate failures in retailing industry' *Journal of Management Studies*, vol. 22, pp. 400-416.

Chang, A and Mansor, S 2004, 'An empirical analysis (using panel data) on the relationship between firm performance and corporate governance practices', Paper presented in the International Bornea Business Conference, Kuala-Lumpur, 9-11 December.

Chang, A and Mansor, S 2005, 'Can good corporate governance practices contribute to firms' financial performance? Evidence from Malaysian companies', *International Journal for Business Governance and Ethics*, vol. 1.

Chen, K, Elder, R and Hsieh, M 2005, 'Corporate governance and earnings management: the implications of corporate governance best-practice principles for Taiwanese listed companies, working paper, National Cheng Kung University, Taiwan, available at: http://scholar.google.com/scholar?hl=en&lr=&q=cache:n7nAD1bUcNwJ:aaahq.org/audit/midyear/06midyear/papers/Chen%2520et%2520al_TWN_CG%2520and%2520EM.pdf+Hsieh++chen+elder+corporate+governance+2005+aaahq.org, accessed, 15 Feb 2007.

Chua, C, Eun, C and Lai, S 2007 'Corporate valuation around the world: the effects of governance, growth, and openness', *Journal of Banking and Finance*, vol. 31, pp. 35-56.

Claessens, S and Fan, J 2002, 'Corporate governance in Asia: a survey', *International Review of Finance*, vol. 3, no. 2, pp. 71-103.

Claessens, S, Djankov, S and Lang, L 2000, 'Ultimate controlling owners of East Asian corporations and expropriation of minority shareholders', mimeo, World Bank, Washington DC.

Claessens, S, Djankov, S and Lang, L 2000, 'The separation of ownership and control in East Asian corporations' *Journal of Financial Economics*, vol. 58, pp. 81-112.

Claessens, S, Djankov, S and Pohl, G 1997, 'Ownership and corporate governance: evidence from the Czech Republic, World Bank Policy Research working paper no. 1737, Washington DC.

Colombo, E and Stanca, L 2006, *Financial Market Imperfections and Corporate Decisions*: *Lessons from the Transition Process in Hungary*, Blackwell Publishers, Berlin.

Conyon, M and Peck, S 1998, 'Board size and corporate performance: evidence from European countries', *Academy of Management Journal*, vol. 41, no. 2.

Copeland, T, Weston, J and Shastri, K 2005, *Financial Theory and Corporate Policy*, 4th edn, Addison-Wesely, New York.

Crowther, D and Rayman-Bacchus, L (eds) 2004, *Perspectives in Corporate Social Responsibility*, Ashgate Publishing, London.

Cuthbertson, K 1996, *Quantitative Financial Economics: Stocks, Bonds, Foreign Exchange*, John Wiley and Sons, London.

Daily, C and Dalton, D 1992, 'The relationship between governance structure and corporate performance in entrepreneurial firms', *Journal of Business Venturing*, vol. 7, no. 5, pp. 375-386.

Daily, C and Dalton, D 1993, 'Board of directors leadership and structure: control and performance implications', *Entrepreneurship: Theory and Practice*, vol. 17, no. 3, pp. 65-81.

Daily, C and Dalton, D 1994, 'Bankruptcy and corporate governance: the impact of board composition and structure', *Academy of Management Journal*, vol. 37, no. 6. pp, 1603-1617.

Daily, C and Dalton, D 1995, 'CEO and director turnover in failing firms: an illusion of change?', *Strategic Management Journal*, vol. 16, pp. 393-400.

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

Dalton, D, Daily, C Ellstrand, A and Johnson, J 1998, 'Meta-analytic reviews of board composition, leadership structure, financial performance', *Strategic Management Journal*, vol. 19, no. 3, pp. 269-290.

Damodaran, A 2006, *Applied Corporate Finance: A Users Manual,* 2nd edn, John Wiley and Sons, New York.

Davis, J, Schoorman, D and Donaldson, L, 1997, 'Toward a stewardship theory of management', *The Academy of Management Review*, vol. 22, no. 1, pp. 20-47.

Defond, M and Hung, M 2004, 'Investor protection and corporate governance: evidence from worldwide CEO turnover', *Journal of Accounting Research*, vol. 42, no. 2.

Demsetz, H and Lehn, K 1985, 'The structure of corporate ownership: causes and consequences', *Journal of Political Economy,* vol. 93, no. 6, pp. 1155-1177.

Dewatripont, M and Tirole, J 1994, 'A theory of debt and equity: diversity of securities and manager-shareholder congruence', *Quarterly Journal of Economics,* vol. 109, no. 4, pp. 1027-1054.

Diamond, D 1984, 'Financial intermediation and delegated monitoring', *Review of Economic Studies,* vol. 51, pp. 393-414.

Dittmar, A, Mahrt-Smith, J and Servaes, H 2003, 'International corporate governance and corporate cash holdings', *Journal of Financial and Quantitative analysis,* vol. 38, no. 1.

Doidge, C, Karolyi, A and Stulz, R 2001, 'Why are foreign firms listed in the U.S. worth more?', NBER working paper no. 8538, National Bureau of Economic Research, Cambridge.

Durnev, A and Kim, E 2002, 'To steal or not to steal: firm attributes, legal environment, and valuation', working paper, Department of Finance, University of Michigan, Michigan.

Dyck, A and Zingales, L 2001, 'Private benefits of control: an international comparison', working paper no. 8711, Social Science Research Network, available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=296107, accessed 1 Feb 2007.

Eisenberg, T, Sundgren, S and Wells, M 1998, 'Larger board size and decreasing firm value in small firms', *Journal of Financial Economics*, vol. 48, no.1, pp. 35-54.

Elton, E and Gruber, M 1975, *Finance as a Dynamic Process*, Prentice Hall, New Jersey.

Fama, E and Jensen, M 1983, 'Separation of ownership and control', *Journal of Law and Economics*, vol. 26, no. 2, pp. 301-325.

Francis, R 2000, *Ethics and Corporate Governance: An Australian Handbook*, University of New South Wales Press, Sydney.

Franks, J and Mayer, C 1994, 'Ownership and control', in H Siebert (ed.) *Trends in Business Organization: Do Participation and Cooperation Increase Competitiveness?*, M Siebeck, Tubingen, reprinted in *Journal of Applied Corporate Finance*, vol. 9, pp. 30-45, 1997.

Fry, M 1995, *Money, Interest, and Banking in Economic Development*, 2nd edn, John Hopkins University Press, London.

Gillan, S and Starks, L 1998, 'A survey of shareholder activism: motivation and empirical evidence', FMA International/CIBC World Markets, vol. 2, no. 2.

Gillan, S, Hartzell, J and Starks, L 2003, 'Explaining corporate governance: boards, by laws, and charter provisions', Weinberg Center for Corporate Governance working paper, Stern, New York.

Gompers, P, Ishii, J and Metric, A 2003, 'Corporate governance and equity prices', *Quarterly Journal of Economics*, vol. 118, no. 1, pp. 107-155.

Goyal, V and Park, C 2002, 'Board leadership structure and CEO turnover', *Journal of Corporate Finance*, vol. 8, no. 1, pp. 49-66.

Grossman, S and Hart, O 1982, 'Corporate financial structure and managerial incentives', in J McCall (ed.) *The Economics of Information and Uncertainty,* University of Chicago Press, Chicago.

Gujarati, D 1995, *Basic Econometrics*, 3rd edn, McGraw Hill, New York.

Gupta, N 2005, 'Partial privatization and firm performance', *The Journal of Finance*, vol. 60, no. 2, pp. 987-1015.

Hanrahan, P, Ramsay, I and Stapledon, G 2001, *Commercial Applications of Company Law*, 2nd edn, CCH Australia, Sydney.

Hart, O 1995, 'Corporate governance: some theory and implications', *The Economic Journal,* vol. 105, no. 430, pp. 678-689.

Hart, O 1995, *Firms, Contracts and Financial Structure*, Oxford University Press, Oxford.

Hartzell, J, Kallberg, J and Liu, C 2003, 'The role of corporate governance in initial public offering: evidence from real estate investment trusts', working paper, University of Texas, Austan.

Heinrich, R 1999, 'A model of corporate governance as a system' Kiel working paper no. 931, Kiel Institute of World Economics, Kiel.

Heinrich, R 2002, *Complementarities in Corporate Governance*, Springer, Berlin.

Hermalin, B and Weisbach, M 1991, 'The effects of board composition and direct incentives on firm performance', *Financial Management*, vol. 20, no. 4, pp. 101-112.

Hirschey, M, John, K and Makhija, A (eds) 2003, *Corporate Governance and Finance*, Elsevier, London

Hofstede, G and Hofstede, G 2004, *Cultures and Organizations: Software of the Mind*, McGraw Hill, New York.

Holmstrom, B and Milgrom, P 1994, 'The firm as an incentive system', *American Economic Review*, vol. 84, no. 4, pp. 972-991.

Holmstrom, B and Tirole, J 1993, 'Market liquidity and performance monitoring', *Journal of Political Economy*, vol. 101, no. 4, pp. 678-709.

Hunt, B and Terry, C 2004, *Financial Institutions and Markets*, Blackwell, Singapore.

Jacobson, D and O'Callaghan, A 1996, *Industrial Economics and Organization: A European Perspective*, McGraw Hill, Sydney

Jarrell, G, Brickley, J and Netter, J 1988, 'The market for corporate control: the empirical evidence since 1980', *Journal of Economic Perspectives,* vol. 2, no. 1, pp. 49-68.

Jawell, L and Reitz, H 1981, *Group Effectiveness in Organizations,* Scott-Foresman, Glenview, IL.

Jensen, M 1986, 'Agency costs of free cash flows, corporate finance and takeovers', *American Economic Review,* vol. 76, pp. 323-329.

Jensen, M 1993, 'The modern industrial revolution, exit, and the failure of internal control systems', *Journal of Finance,* vol. 48, no. 3, pp. 831-880.

Jensen, M and Meckling, W 1976, 'Theory of the firm: managerial behavior, agency costs, and ownership structure', *Journal of Financial Economics,* vol. 3, pp. 305-360.

John, T and John, K 1993, 'Top management compensation and capital structure', *Journal of Finance,* vol. 48, no. 3, pp. 949-974.

Johnson, S, Boone, P, Breach, A and Friedman, E 2000, 'Corporate governance in the Asian financial crisis, 1997-98', *Journal of Financial Economics,* vol. 58, pp. 141-186.

Jones, C 1997, *Introduction to Economic Growth,* 2nd edn, W. W. Norton and Company, California.

Kahan, M and Rock, E 2003, 'Corporate constitutionalism: anti-takeover charter provisions as pre-commitment' working paper, New York University Law School, available at http://Isr.nellco.org/upenn/wps/papers/19, accessed 1 June 2004.

Kaplan, S and Minton, B 1994, 'Appointments of outsiders to Japanese boards: determinants and implications for managers', *Journal of Financial Economics*, vol. 36, no. 2, pp. 225-258.

Karpoff, M, Marr, M and Danielson, M 2000, *Corporate Governance and Firm Performance*, Blackwell Publishers, Massachusetts.

Khatri, Y, Leruth, L and Piesse, J 2002, 'Corporate performance and governance in Malaysia', working paper (WP/02/152), International Monetary Fund, Washington DC., available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=879969, accessed 15 Nov, 2007.

Klapper, L and Love, I 2002, 'Corporate governance, investor protection and performance in emerging markets', working paper no. 2818, World Bank, Washington DC.

Klapper, L and Love, I 2003, 'Corporate governance, investor protection and firm performance in emerging markets', *Journal of Corporate Finance*, vol. 195, pp.1-26.

Kyereboah-Coleman, A and Biekpe, N 2005, 'The relationship between board size board composition, ceo duality, and firm performance: experience from Ghana', working paper, University of Stellenbosch Business School, Cape Town.

La Porta, R, Lopez-de-Silanes, F, Shleifer, A and Vishny, R 1997, 'Legal determinants of external finance', *Journal of Finance*, vol. 52, no. 3, pp. 1131-1150.

La Porta, R, Lopez-de-Silanes, F and Shleifer, A 1998, 'Corporate ownership around the world', NBER working paper no. 6625, National Bureau of Economic Research, Cambridge.

La Porta, R, Lopez-de-Silanes, F, Shleifer, A and Vishny, R 1998, 'Law and finance', *Journal of Political Economy*, vol. 106, no. 6, pp. 1113-1155.

Larcker, D, Richardson, S and Tuna, I 2004, 'How important is corporate governance?' working paper, University of Pennsylvania, Philadelphia.

Leal, R and Carvalhal-da-Silva, A 2005, 'Corporate governance and value in Brazil (and in Chile)', working paper R-514, Inter-American Development Bank, Research Network, Washington DC.

Lins, K 2000, 'Equity ownership and firm value in emerging markets', unpublished working paper, University of Utah, Salt lake city.

Lins, K and Servaes, H 2002, 'Is corporate diversification beneficial in emerging markets?', *Financial Management*, vol. 31, pp. 5-31.

Lipton, M and Lorsch, J 1992, 'A modest proposal for improved corporate governance', *Business Lawyer*, vol. 48, no. 1, pp. 59-77.

Loderer, C and Peyer, U 2002, 'Board overlap, seat accumulation and share prices', *European Financial Management*, vol. 8, no. 2, pp. 165-192.

Maddala, G 2001, *Introduction to Econometrics*, 3rd edn, John Wiley and Sons, West Sussex.

Masuyama, S, Vandenbrink, D and Yue, C 1999, *East Asia's Financial Systems: Evolution and Crisis*, Seng Lee Press, Singapore.

Mathiesen, H 2002, 'Managerial ownership and firm performance', encycogov, available at http://www.encycogov.com/WhatIsGorpGov.asp, accessed 20 March 2006.

Matos, J 2001, *Theoretical Foundations of Corporate Finance,* Princeton University Press, Princeton.

Mayer, C 1998, 'Financial systems and corporate governance: a review of the international evidence', *Journal of Institutional and Theoretical Economics,* vol. 154, no. 1, pp. 144-176.

Mayer, C 2001, 'Firm control: inaugural Lecture', in J Schwalbach (ed.) *Corporate Governance: Essays in Honor of Horst Albach,* Springer, Berlin.

Mehran, H 1992, 'Executive incentive plans, corporate control and capital structure', *Journal of Financial and Quantitative Analysis,* vol. 27, no. 4, pp. 539-560.

Mehran, H 1995, 'Executive compensation structure ownership and firm performance', *Journal of Financial Economics,* vol. 38, no. 2, pp. 163-184.

Miller, M 1977, 'Debt and taxes', *Journal of Finance*, vol. 32, no. 2, pp. 261-75.

Mills, T 1999, *The Econometric Modelling of Financial Time Series,* 2nd edn, Cambridge University Press, Cambridge.

Minguez-Vera, A and Martin-Ugedo, J 2007, 'Does ownership structure affect value? A panel data analysis for the Spanish market', *International Review of Financial Analysis,* vol. 16, pp. 81-98.

Modigliani, F and Miller, M 1958, 'The cost of capital, corporate finance and the theory of investment', *American Economic Review*, vol. 48, no. 3, pp. 261-297.

Modigliani, F and Miller, M 1963, 'Corporate income taxes and the cost of capital: a correction', *American Economic Review,* vol. 53, no.3, pp. 433-443.

Monks, R and Minow, N 2001, *Corporate Governance*, 2nd edn, Blackwell Publishers, Oxford.

Morck, R, Shleifer, A and Vishny, R 1988, 'Management ownership and market valuation: an empirical analysis', *Journal of Financial Economics*, vol. 20, pp. 293-315.

Morin, R and Jarrell, S 2001, *Driving Shareholders Value: Value-Building Techniques for Creating Shareholder Wealth*, McGraw-Hill Publishers, Sydney.

Nam, S and Nam, C 2004, *Corporate Governance in Asia: Recent Evidence from Indonesia Republic of Korea Malaysia and Thailand*, Asian Development Bank Institute, Manila.

Nenova, T 2003, 'The value of corporate votes and control benefits: a cross-country analysis', *Journal of Financial Economics*, vol. 68, pp. 325-51.

Nikomborirak, D 2001, 'An assessment of the role of board of directors in building good corporate governance: the case of Thailand' The Third Asian Round Table on Corporate Governance, Thailand Development Research Institute, Bangkok.

Novaes, W and Zingales, L 1995, 'Capital structure choice when managers are in control: entrenchment versus efficiency', NBER working paper no. 5384, National Bureau of Economic Research, Cambridge.

OECD 1999, *OECD Principles of Corporate Governance*, Organization for Economic Cooperation and Development, Paris.

Ogden, J, Jen, F and O'Connor, P 2003, *Advanced Corporate Finance: Policies and Strategies*, Prentice Hall, New Jersey.

Overly, D 1973, 'Introducing societal indicators into technology assessment', In M Certon and B Bartocha (eds) *Technology Assessment in a Dynamic Environment*, Gordon and Breach, New York.

Peirson, G, Brown, R, Easton, S and Howard, P 2000, *Business Finance*, 7th edn, McGraw Hill, Sydney.

Pereiro, L 2002, *Valuation of Companies in Emerging Markets: A Practical Approach*, John Wiley and Sons, New York.

Pfeffer, J 1972, 'Size, composition, and function of hospital boards of directors', *Administrative Science Quarterly,* vol. 18, pp. 349-364.

Pi, L and Timme, S 1993, 'Corporate control and bank efficiency', *Journal of Banking and Finance,* vol. 17, pp. 515-530.

Pinkowitz, L, Stulz, R and Williamson, R 2003, 'Why do firms in countries with poor protection of investor rights hold more cash', NBER working paper no. 10188, National Bureau of Economic Research, Cambridge.

Rajan, R and Zingales, L 1995, 'What do we know about capital structure? some evidence from international data', *The Journal of Finance,* vol. 50, no. 5, pp. 1421-1460.

Rajan, R and Zingales, L 1998, 'Which capitalism? lessons from the East Asian crisis', *Journal of Applied Corporate Finance,* vol. 11, no. 3, pp. 40-48.

Rechner, P and Dalton, D 1991, 'CEO duality and organizational performance: a longitudinal analysis', *Strategic Management Journal*, vol. 12, no. 2, pp. 155-160.

Ruhani, A and Sanda, U 2001, 'Further evidence on the relationship between insider stock ownership and firm performance in Malaysia' in Proceedings of the Malaysian Finance Association Third Annual Symposium, *International Islamic University,* Kuala-Lumpur.

Sarkar, J and Sarkar, S 2000, *Indian Development Report,* Indra Gandhi Institute of Development Research, Oxford University Press, New Delhi.

Shleifer, A and Vishny, R 1986, 'Large shareholders and corporate control', *Journal of Political Economy,* vol. 94, no. 3, pp. 461-488.

Shleifer, A and Vishny, R 1997, 'A survey of corporate governance', *The Journal of Finance,* vol. 52, no. 2, pp. 737-783.

Sridharan, U and Marsinko, A 1997, 'CEO duality in the paper and forest products industry', *Journal of Financial and Strategic Decisions,* vol. 10, pp. 59-65.

Stoeberl, P and Sherony, B 1985, 'Board efficiency and effectiveness', in E Matter and M Ball (eds) *Handbook for Corporate Directors,* McGraw Hill, New York.

Tam, O and Tan, G 2007, 'Ownership, governance and firm performance in Malaysia', *Corporate Governance: An International Review,* vol. 15, no. 2, pp. 208-222.

Thillainathan, R 1998, Corporate Governance in Malaysia: *A Framework for Analysis and a Reform Agenda,* report prepared for the Asian Development Bank, Manila.

Tomasic, R and Bottomley, S 1993, *Directing the Top 500: Corporate Governance and Accountability in Australian Companies,* Allen and Unwin, Sydney.

Tomasic, R, Pentony, B and Bottomley, S 2003, 'Fiduciary duties of directors: interview schedule', Personal communication, Melbourne.

Tunzelmann, A 1996, *Social Responsibility and the Company: A New Perspective on Governance Strategy and the Community*, Institute of Policy Studies, Willington.

Vance, S 1983, *Corporate Leadership: Boards, Directors and Strategy*, McGraw-Hill, New York.

Venanzi, D and Fidanza, B 2006, Corporate social responsibility and value creation: determinants and mutual relationships in a sample of European listed firms', Social Science Research Network, available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=939710&download=yes, accessed 15 Feb 2007.

Vives, X 2000, *Corporate Governance: Theoretical and Empirical Perspectives*, Cambridge University Press, Cambridge.

Wei, Y 2003, *Comparative Corporate Governance: A Chinese Perspective*, Kluwer Law International, London.

White, H 1980, 'A heteroscedasticity-consistent covariance matrix estimator and a direct test for heteroscedasticity', *Econometrica*, vol. 48, pp. 817-838.

White, J and Ingrassia, P 1992, 'Board ousts managers at GM: takes control of crucial committee', *The Wall Street Journal*, April 7, pp. A1, A8.

Wild, J, Subramanyam, K and Halsey, R 2003, *Financial Statement Analysis*, 8th edn, McGraw Hill, Sydney.

Williamson, O 1988, 'Corporate finance and corporate governance', *Journal of Finance*, vol. 43, no. 3, pp. 567-591.

World Bank 1997, *Private Capital Flows to Developing Countries: The Road to Financial Integration*, Oxford University Press, New York.

World Bank 1998, The Road to Recovery: East Asia after the Crisis, Washington DC.

World Bank 1998b, *Global Economic Prospects*, Oxford University Press, New York.

World Bank 2003, *Corporate Governance: an Issue of Global Concern*, World Bank, Washington DC.

Yafeh, Y and Yosha, O 1995, 'Large shareholders and banks: who monitors and how?', working paper no. 1178, Foerder Institute of Economic Research, Tel Aviv University.

Yan, Y 2005, *Foreign Investment and Corporate Governance in China*, Macmillan, London.

Yap, H, 2001, 'Director ownership and financial performance of listed companies in Malaysia' in Proceedings of the Malaysian Finance Association, Third Annual Symposium, *International Islamic University*, Kuala-Lumpur.

Yermack, D 1996, 'Higher market valuation of companies with a small board of directors', *Journal of Financial Economics*, vol. 40, no. 2, pp.185-211.

Yildrim, C 2000, 'Ownership structure, corporate governance and access to foreign capital: evidence from Turkish firms', Cent ER Tilburg University, Tilburg.

Zahra, S and Pearce, J 1989, 'Boards of directors and corporate financial performance: a review and integrative model', *Journal of Management*, vol. 15, no. 2, pp. 291-334.

Zingales, L 1995, 'What determines the value of corporate votes?', *The Quarterly Journal of Economics*, vol. 110, no. 4, pp. 1047-1073.

Zingales, L 1998, 'Corporate governance', Discussion Paper no. 1806, Centre for Economic Policy Research, London.

Zingales, L 2000, 'In search of new foundations', *Journal of Finance*, vol. 55, no. 4, pp. 1623-1653.

Zwiebel, J 1996, 'Dynamic capital structure under managerial entrenchment', *The American Economic Review*, no. 86, pp. 1197-1215.

Appendix 1
Variance Inflation and Tolerance Factor Tests for Developed Market (Australia)

Values for Log Size

Dependent Variable: LOGSIZE
Method: Panel Least Squares
Date: 03/31/06 Time: 17:57
Sample: 2000 2003
Cross-sections included: 60
Total panel (balanced) observations: 240

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.175999	0.078580	14.96558	0.0000
DUALITY	-0.412737	0.076477	-5.396869	0.0000
GR	-0.097474	0.033509	-2.908939	0.0040
PB	-0.048070	0.450717	-0.106653	0.9152
LOGMC	0.104147	0.011526	9.035693	0.0000
AC	0.663613	0.103886	6.387923	0.0000

R-squared	0.436931	Mean dependent var	1.893286
Adjusted R-squared	0.424899	S.D. dependent var	0.367981
S.E. of regression	0.279060	Akaike info criterion	0.309899
Sum squared resid	18.22257	Schwarz criterion	0.396915
Log likelihood	-31.18787	F-statistic	36.31587
Durbin-Watson stat	0.044620	Prob(F-statistic)	0.000000

Values for Agency Cost

Dependent Variable: AC
Method: Panel Least Squares
Date: 03/31/06 Time: 18:59
Sample: 2000 2003
Cross-sections included: 60
Total panel (balanced) observations: 240

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.073021	0.063656	-1.147118	0.2525
LOGSIZE	0.223758	0.035028	6.387923	0.0000
DUALITY	0.124059	0.046387	2.674407	0.0080
GR	0.094336	0.018822	5.012063	0.0000
PB	-0.044109	0.261710	-0.168542	0.8663
LOGMC	-0.029691	0.007527	-3.944508	0.0001

R-squared	0.212783	Mean dependent var	0.228078
Adjusted R-squared	0.195962	S.D. dependent var	0.180713
S.E. of regression	0.162042	Akaike info criterion	-0.777235
Sum squared resid	6.144314	Schwarz criterion	-0.690219
Log likelihood	99.26817	F-statistic	12.64991
Durbin-Watson stat	0.041002	Prob(F-statistic)	0.000000

Values for Log MC

Dependent Variable: LOGMC
Method: Panel Least Squares
Date: 03/31/06 Time: 19:00
Sample: 2000 2003
Cross-sections included: 60
Total panel (balanced) observations: 240

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.587119	0.526712	3.013258	0.0029
AC	-2.099860	0.532350	-3.944508	0.0001
LOGSIZE	2.483586	0.274864	9.035693	0.0000
DUALITY	-0.412263	0.395106	-1.043424	0.2978
GR	0.584091	0.162130	3.602599	0.0004
PB	5.515324	2.171326	2.540072	0.0117

R-squared	0.362664	Mean dependent var	6.269598
Adjusted R-squared	0.349046	S.D. dependent var	1.689032
S.E. of regression	1.362740	Akaike info criterion	3.481555
Sum squared resid	434.5524	Schwarz criterion	3.568571
Log likelihood	-411.7866	F-statistic	26.63069
Durbin-Watson stat	0.133652	Prob(F-statistic)	0.000000

Values for Price to Book Value Ratio

Dependent Variable: PB
Method: Panel Least Squares
Date: 03/31/06 Time: 19:01
Sample: 2000 2003
Cross-sections included: 60
Total panel (balanced) observations: 240

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.003332	0.015943	0.208977	0.8346
LOGMC	0.004865	0.001915	2.540072	0.0117
AC	-0.002752	0.016327	-0.168542	0.8663
LOGSIZE	-0.001011	0.009481	-0.106653	0.9152
DUALITY	0.012505	0.011734	1.065766	0.2876
GR	-0.012082	0.004884	-2.474066	0.0141

R-squared	0.058221	Mean dependent var	0.024897
Adjusted R-squared	0.038098	S.D. dependent var	0.041268
S.E. of regression	0.040474	Akaike info criterion	-3.551642
Sum squared resid	0.383322	Schwarz criterion	-3.464626
Log likelihood	432.1970	F-statistic	2.893203
Durbin-Watson stat	0.288603	Prob(F-statistic)	0.014830

Values for Gearing

Dependent Variable: GR
Method: Panel Least Squares
Date: 03/31/06 Time: 19:01
Sample: 2000 2003
Cross-sections included: 60
Total panel (balanced) observations: 240

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.553862	0.207556	2.668492	0.0082
PB	-2.109798	0.852766	-2.474066	0.0141
LOGMC	0.089969	0.024973	3.602599	0.0004
AC	1.027674	0.205040	5.012063	0.0000
LOGSIZE	-0.358043	0.123084	-2.908939	0.0040
DUALITY	-0.354749	0.153687	-2.308250	0.0219

R-squared	0.157315	Mean dependent var	0.598265
Adjusted R-squared	0.139309	S.D. dependent var	0.576495
S.E. of regression	0.534834	Akaike info criterion	1.610960
Sum squared resid	66.93502	Schwarz criterion	1.697976
Log likelihood	-187.3153	F-statistic	8.736794
Durbin-Watson stat	0.340377	Prob(F-statistic)	0.000000

Values for Duality

Dependent Variable: DUALITY
Method: Panel Least Squares
Date: 03/31/06 Time: 19:02
Sample: 2000 2003
Cross-sections included: 60
Total panel (balanced) observations: 240

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.618260	0.078862	7.839784	0.0000
GR	-0.062755	0.027187	-2.308250	0.0219
PB	0.386289	0.362452	1.065766	0.2876
LOGMC	-0.011234	0.010766	-1.043424	0.2978
AC	0.239076	0.089394	2.674407	0.0080
LOGSIZE	-0.268192	0.049694	-5.396869	0.0000

R-squared	0.207086	Mean dependent var	0.066667
Adjusted R-squared	0.190143	S.D. dependent var	0.249965
S.E. of regression	0.224949	Akaike info criterion	-0.121206
Sum squared resid	11.84085	Schwarz criterion	-0.034190
Log likelihood	20.54474	F-statistic	12.22277
Durbin-Watson stat	0.008650	Prob(F-statistic)	0.000000

Appendix 2
Variance Inflation and Tolerance Factor Tests for Developing Market (Malaysia)

Values for Log Size

Dependent Variable: LOGSIZE
Method: Panel Least Squares
Date: 03/31/06 Time: 19:07
Sample: 2000 2003
Cross-sections included: 60
Total panel (balanced) observations: 240

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.830520	0.073941	24.75659	0.0000
DUALITY	-0.068847	0.032004	-2.151161	0.0325
PB	0.322782	1.580966	0.204168	0.8384
ROTA	0.277802	0.162242	1.712267	0.0882
AC	0.036697	0.102854	0.356791	0.7216
LOGMC	0.042603	0.013357	3.189638	0.0016

R-squared	0.083192	Mean dependent var	2.061476
Adjusted R-squared	0.063603	S.D. dependent var	0.225042
S.E. of regression	0.217768	Akaike info criterion	-0.186090
Sum squared resid	11.09697	Schwarz criterion	-0.099074
Log likelihood	28.33081	F-statistic	4.246698
Durbin-Watson stat	0.025956	Prob(F-statistic)	0.001027

Values for Log MC

Dependent Variable: LOGMC
Method: Panel Least Squares
Date: 03/31/06 Time: 19:08
Sample: 2000 2003
Cross-sections included: 60
Total panel (balanced) observations: 240

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.516597	0.653584	3.850458	0.0002
LOGSIZE	0.978012	0.306622	3.189638	0.0016
DUALITY	0.060766	0.154800	0.392548	0.6950
PB	12.59501	7.530661	1.672497	0.0958
ROTA	2.433442	0.765857	3.177410	0.0017
AC	0.987416	0.488691	2.020531	0.0445

R-squared	0.120762	Mean dependent var	5.153303
Adjusted R-squared	0.101975	S.D. dependent var	1.101037
S.E. of regression	1.043389	Akaike info criterion	2.947508
Sum squared resid	254.7468	Schwarz criterion	3.034524
Log likelihood	-347.7010	F-statistic	6.427889
Durbin-Watson stat	0.121727	Prob(F-statistic)	0.000013

Values for Agency Cost

Dependent Variable: AC
Method: Panel Least Squares
Date: 03/31/06 Time: 19:09
Sample: 2000 2003
Cross-sections included: 60
Total panel (balanced) observations: 240

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.222202	0.088192	2.519515	0.0124
LOGMC	0.017366	0.008595	2.020531	0.0445
LOGSIZE	0.014816	0.041527	0.356791	0.7216
DUALITY	0.002597	0.020535	0.126443	0.8995
PB	0.094839	1.004631	0.094402	0.9249
ROTA	0.043934	0.103694	0.423690	0.6722

R-squared	0.024261	Mean dependent var	0.346137
Adjusted R-squared	0.003412	S.D. dependent var	0.138609
S.E. of regression	0.138372	Akaike info criterion	-1.093061
Sum squared resid	4.480346	Schwarz criterion	-1.006046
Log likelihood	137.1674	F-statistic	1.163665
Durbin-Watson stat	0.003624	Prob(F-statistic)	0.327824

Values for Return on Total Assets

Dependent Variable: ROTA
Method: Panel Least Squares
Date: 03/31/06 Time: 19:09
Sample: 2000 2003
Cross-sections included: 60
Total panel (balanced) observations: 240

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.128297	0.055699	-2.303412	0.0221
AC	0.017448	0.041181	0.423690	0.6722
LOGMC	0.016997	0.005349	3.177410	0.0017
LOGSIZE	0.044543	0.026014	1.712267	0.0882
DUALITY	0.023039	0.012854	1.792407	0.0744
PB	-1.322990	0.627184	-2.109412	0.0360

R-squared	0.092516	Mean dependent var	0.047985
Adjusted R-squared	0.073125	S.D. dependent var	0.090575
S.E. of regression	0.087200	Akaike info criterion	-2.016534
Sum squared resid	1.779315	Schwarz criterion	-1.929518
Log likelihood	247.9840	F-statistic	4.771157
Durbin-Watson stat	1.490885	Prob(F-statistic)	0.000359

Values for Price to Book Value Ratio

Dependent Variable: PB
Method: Panel Least Squares
Date: 03/31/06 Time: 19:09
Sample: 2000 2003
Cross-sections included: 60
Total panel (balanced) observations: 240

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.006330	0.005801	1.091219	0.2763
ROTA	-0.014105	0.006687	-2.109412	0.0360
AC	0.000402	0.004254	0.094402	0.9249
LOGMC	0.000938	0.000561	1.672497	0.0958
LOGSIZE	0.000552	0.002703	0.204168	0.8384
DUALITY	-0.000701	0.001335	-0.525250	0.5999

R-squared	0.028415	Mean dependent var	0.011576
Adjusted R-squared	0.007655	S.D. dependent var	0.009038
S.E. of regression	0.009004	Akaike info criterion	-6.557662
Sum squared resid	0.018970	Schwarz criterion	-6.470646
Log likelihood	792.9194	F-statistic	1.368721
Durbin-Watson stat	0.930497	Prob(F-statistic)	0.236853

Values for CEO Duality

Dependent Variable: DUALITY
Method: Panel Least Squares
Date: 03/31/06 Time: 19:10
Sample: 2000 2003
Cross-sections included: 60
Total panel (balanced) observations: 240

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.773635	0.279993	2.763047	0.0062
PB	-1.678813	3.196214	-0.525250	0.5999
ROTA	0.587860	0.327972	1.792407	0.0744
AC	0.026312	0.208091	0.126443	0.8995
LOGMC	0.010830	0.027588	0.392548	0.6950
LOGSIZE	-0.281672	0.130939	-2.151161	0.0325

R-squared	0.032650	Mean dependent var	0.266667
Adjusted R-squared	0.011980	S.D. dependent var	0.443141
S.E. of regression	0.440478	Akaike info criterion	1.222772
Sum squared resid	45.40097	Schwarz criterion	1.309788
Log likelihood	-140.7326	F-statistic	1.579585
Durbin-Watson stat	0.029263	Prob(F-statistic)	0.166608

Appendix 3
Variance Inflation and Tolerance Factor Tests for Cross-market Analysis

Values for Gearing

Dependent Variable: GR
Method: Panel Least Squares
Date: 03/31/06 Time: 19:13
Sample: 2000 2003
Cross-sections included: 120
Total panel (balanced) observations: 480

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.335073	0.223009	5.986636	0.0000
PB	-0.802895	0.969203	-0.828407	0.4079
LOGSIZE	0.056526	0.096675	0.584704	0.5590
ROTA	-0.867381	0.307640	-2.819466	0.0050
DUALITY	0.150321	0.078424	1.916783	0.0559
LOGPRO	-0.316254	0.060007	-5.270311	0.0000

R-squared	0.065021	Mean dependent var	0.476512
Adjusted R-squared	0.055158	S.D. dependent var	0.619366
S.E. of regression	0.602042	Akaike info criterion	1.835442
Sum squared resid	171.8034	Schwarz criterion	1.887614
Log likelihood	-434.5060	F-statistic	6.592648
Durbin-Watson stat	0.313676	Prob(F-statistic)	0.000006

Values for Log Pro (External Corporate Governance Mechanism)

Dependent Variable: LOGPRO
Method: Panel Least Squares
Date: 03/31/06 Time: 19:14
Sample: 2000 2003
Cross-sections included: 120
Total panel (balanced) observations: 480

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.120507	0.141846	14.94935	0.0000
GR	-0.175036	0.033212	-5.270311	0.0000
PB	-2.459559	0.712665	-3.451214	0.0006
LOGSIZE	0.465738	0.068694	6.779885	0.0000
ROTA	-1.034500	0.225836	-4.580750	0.0000
DUALITY	0.416949	0.055350	7.532997	0.0000

R-squared	0.261850	Mean dependent var	2.915941
Adjusted R-squared	0.254064	S.D. dependent var	0.518586
S.E. of regression	0.447891	Akaike info criterion	1.243886
Sum squared resid	95.08728	Schwarz criterion	1.296058
Log likelihood	-292.5327	F-statistic	33.62920
Durbin-Watson stat	0.090035	Prob(F-statistic)	0.000000

Values for Duality

Dependent Variable: DUALITY
Method: Panel Least Squares
Date: 03/31/06 Time: 19:14
Sample: 2000 2003
Cross-sections included: 120
Total panel (balanced) observations: 480

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.214570	0.134578	-1.594390	0.1115
LOGPRO	0.256428	0.034041	7.532997	0.0000
GR	0.051167	0.026694	1.916783	0.0559
PB	-0.235988	0.565765	-0.417113	0.6768
LOGSIZE	-0.214886	0.055553	-3.868101	0.0001
ROTA	0.588270	0.178956	3.287229	0.0011

R-squared	0.122805	Mean dependent var	0.166667
Adjusted R-squared	0.113552	S.D. dependent var	0.373067
S.E. of regression	0.351248	Akaike info criterion	0.757770
Sum squared resid	58.47966	Schwarz criterion	0.809942
Log likelihood	-175.8648	F-statistic	13.27176
Durbin-Watson stat	0.039610	Prob(F-statistic)	0.000000

Values for Return on Total Assets

Dependent Variable: ROTA
Method: Panel Least Squares
Date: 03/31/06 Time: 19:15
Sample: 2000 2003
Cross-sections included: 120
Total panel (balanced) observations: 480

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.141346	0.033625	4.203650	0.0000
DUALITY	0.037889	0.011526	3.287229	0.0011
LOGPRO	-0.040978	0.008946	-4.580750	0.0000
GR	-0.019016	0.006745	-2.819466	0.0050
PB	0.924245	0.137192	6.736863	0.0000
LOGSIZE	0.016154	0.014300	1.129610	0.2592

R-squared	0.163275	Mean dependent var	0.068034
Adjusted R-squared	0.154449	S.D. dependent var	0.096942
S.E. of regression	0.089142	Akaike info criterion	-1.984750
Sum squared resid	3.766550	Schwarz criterion	-1.932577
Log likelihood	482.3399	F-statistic	18.49890
Durbin-Watson stat	1.828042	Prob(F-statistic)	0.000000

Values for Log Size

Dependent Variable: LOGSIZE
Method: Panel Least Squares
Date: 03/31/06 Time: 19:16
Sample: 2000 2003
Cross-sections included: 120
Total panel (balanced) observations: 480

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.430031	0.088046	16.24192	0.0000
ROTA	0.166203	0.147133	1.129610	0.2592
DUALITY	-0.142401	0.036814	-3.868101	0.0001
LOGPRO	0.189814	0.027997	6.779885	0.0000
GR	0.012751	0.021807	0.584704	0.5590
PB	0.440762	0.460201	0.957758	0.3387

R-squared	0.097394	Mean dependent var	1.985204
Adjusted R-squared	0.087873	S.D. dependent var	0.299390
S.E. of regression	0.285934	Akaike info criterion	0.346307
Sum squared resid	38.75329	Schwarz criterion	0.398479
Log likelihood	-77.11360	F-statistic	10.22926
Durbin-Watson stat	0.005322	Prob(F-statistic)	0.000000

Values for Price to Book Value Ratio

Dependent Variable: PB
Method: Panel Least Squares
Date: 03/31/06 Time: 19:16
Sample: 2000 2003
Cross-sections included: 120
Total panel (balanced) observations: 480

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.033283	0.010846	3.068755	0.0023
LOGSIZE	0.004382	0.004575	0.957758	0.3387
ROTA	0.094545	0.014034	6.736863	0.0000
DUALITY	-0.001555	0.003728	-0.417113	0.6768
LOGPRO	-0.009966	0.002888	-3.451214	0.0006
GR	-0.001801	0.002174	-0.828407	0.4079

R-squared	0.139651	Mean dependent var	0.018237
Adjusted R-squared	0.130575	S.D. dependent var	0.030577
S.E. of regression	0.028511	Akaike info criterion	-4.264651
Sum squared resid	0.385297	Schwarz criterion	-4.212479
Log likelihood	1029.516	F-statistic	15.38781
Durbin-Watson stat	0.532204	Prob(F-statistic)	0.000000

Appendix 4
Incremental Tests for Developed Market (Australia)

Remove Agency Cost

Dependent Variable: TQ
Method: Panel Least Squares
Date: 10/27/06 Time: 10:34
Sample (adjusted): 2001 2003
Cross-sections included: 60
Total panel (balanced) observations: 180
White diagonal standard errors & covariance (d.f. corrected)
Convergence achieved after 7 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.775172	0.079363	9.767428	0.0000
LOGSIZE	-0.147906	0.048331	-3.060301	0.0026
LOGMC	0.023091	0.008591	2.687884	0.0079
DUALITY	0.063462	0.115154	0.551107	0.5823
GR	-0.083313	0.026724	-3.117565	0.0021
PB	43.79759	1.606853	27.25675	0.0000
AR(1)	3.880701	1.701338	2.280970	0.0238

R-squared	0.877648	Mean dependent var	1.943498
Adjusted R-squared	0.873405	S.D. dependent var	2.688244
S.E. of regression	0.956483	Akaike info criterion	2.787006
Sum squared resid	158.2709	Schwarz criterion	2.911177
Log likelihood	-243.8305	F-statistic	206.8259
Durbin-Watson stat	1.424617	Prob(F-statistic)	0.000000

Inverted AR Roots	3.88

Remove Price to Book Value Ratio

Dependent Variable: TQ
Method: Panel Least Squares
Date: 10/27/06 Time: 10:35
Sample (adjusted): 2001 2003
Cross-sections included: 60
Total panel (balanced) observations: 180
White diagonal standard errors & covariance (d.f. corrected)
Convergence achieved after 9 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.046433	0.931128	1.123833	0.2626
LOGSIZE	-2.326216	0.987032	-2.356780	0.0196
LOGMC	0.567334	0.142830	3.972083	0.0001
DUALITY	-2.883924	2.809225	-1.026591	0.3060
GR	-0.002616	0.264476	-0.009893	0.9921
AC	2.066729	1.126619	1.834452	0.0683
AR(1)	1.322614	0.185567	7.127409	0.0000

R-squared	0.723727	Mean dependent var	1.943498
Adjusted R-squared	0.714146	S.D. dependent var	2.688244
S.E. of regression	1.437279	Akaike info criterion	3.601493
Sum squared resid	357.3783	Schwarz criterion	3.725664
Log likelihood	-317.1344	F-statistic	75.53221
Durbin-Watson stat	1.457117	Prob(F-statistic)	0.000000

Inverted AR Roots	1.32

Remove Gearing

Dependent Variable: TQ
Method: Panel Least Squares
Date: 10/27/06 Time: 10:35
Sample (adjusted): 2001 2003
Cross-sections included: 60
Total panel (balanced) observations: 180
White diagonal standard errors & covariance (d.f. corrected)
Convergence achieved after 8 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.731851	0.080277	9.116538	0.0000
LOGSIZE	-0.130814	0.050917	-2.569154	0.0110
LOGMC	0.017013	0.009247	1.839756	0.0675
DUALITY	0.087120	0.116155	0.750031	0.4543
PB	43.91688	1.627537	26.98364	0.0000
AC	-0.028245	0.076955	-0.367038	0.7140
AR(1)	3.748738	1.658252	2.260656	0.0250

R-squared	0.875214	Mean dependent var	1.943498
Adjusted R-squared	0.870887	S.D. dependent var	2.688244
S.E. of regression	0.965949	Akaike info criterion	2.806702
Sum squared resid	161.4191	Schwarz criterion	2.930873
Log likelihood	-245.6032	F-statistic	202.2297
Durbin-Watson stat	1.423619	Prob(F-statistic)	0.000000

Inverted AR Roots	3.75

Remove Duality

Dependent Variable: TQ
Method: Panel Least Squares
Date: 10/27/06 Time: 10:36
Sample (adjusted): 2001 2003
Cross-sections included: 60
Total panel (balanced) observations: 180
White diagonal standard errors & covariance (d.f. corrected)
Convergence achieved after 7 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.815775	0.093434	8.730988	0.0000
LOGSIZE	-0.179710	0.060569	-2.967045	0.0034
LOGMC	0.024932	0.009145	2.726338	0.0071
GR	-0.093700	0.027988	-3.347823	0.0010
PB	43.76380	1.591676	27.49541	0.0000
AC	0.081439	0.075745	1.075169	0.2838
AR(1)	3.847023	1.650471	2.330863	0.0209

R-squared	0.877615	Mean dependent var	1.943498
Adjusted R-squared	0.873371	S.D. dependent var	2.688244
S.E. of regression	0.956612	Akaike info criterion	2.787274
Sum squared resid	158.3133	Schwarz criterion	2.911445
Log likelihood	-243.8547	F-statistic	206.7627
Durbin-Watson stat	1.424547	Prob(F-statistic)	0.000000

Inverted AR Roots	3.85

Remove Log Market Capitalisation

Dependent Variable: TQ
Method: Panel Least Squares
Date: 10/27/06 Time: 10:37
Sample (adjusted): 2001 2003
Cross-sections included: 60
Total panel (balanced) observations: 180
White diagonal standard errors & covariance (d.f. corrected)
Convergence achieved after 7 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.824142	0.082127	10.03496	0.0000
LOGSIZE	-0.101683	0.038707	-2.626990	0.0094
DUALITY	0.044610	0.113776	0.392081	0.6955
GR	-0.073956	0.024452	-3.024550	0.0029
PB	43.95526	1.624529	27.05723	0.0000
AC	0.011313	0.059045	0.191591	0.8483
AR(1)	3.877144	1.715103	2.260589	0.0250

R-squared	0.876511	Mean dependent var	1.943498
Adjusted R-squared	0.872228	S.D. dependent var	2.688244
S.E. of regression	0.960917	Akaike info criterion	2.796255
Sum squared resid	159.7416	Schwarz criterion	2.920426
Log likelihood	-244.6630	F-statistic	204.6562
Durbin-Watson stat	1.420855	Prob(F-statistic)	0.000000

Inverted AR Roots	3.88

Remove Log Size

Dependent Variable: TQ
Method: Panel Least Squares
Date: 10/27/06 Time: 10:37
Sample (adjusted): 2001 2003
Cross-sections included: 60
Total panel (balanced) observations: 180
White diagonal standard errors & covariance (d.f. corrected)
Convergence achieved after 7 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.591195	0.049026	12.05886	0.0000
LOGMC	0.007772	0.007137	1.089045	0.2776
DUALITY	0.121828	0.114923	1.060087	0.2906
GR	-0.070504	0.027525	-2.561479	0.0113
PB	43.81656	1.610108	27.21343	0.0000
AC	-0.046290	0.067958	-0.681157	0.4967
AR(1)	3.884691	1.727191	2.249138	0.0258

R-squared	0.875464	Mean dependent var	1.943498
Adjusted R-squared	0.871145	S.D. dependent var	2.688244
S.E. of regression	0.964984	Akaike info criterion	2.804701
Sum squared resid	161.0964	Schwarz criterion	2.928872
Log likelihood	-245.4231	F-statistic	202.6925
Durbin-Watson stat	1.400759	Prob(F-statistic)	0.000000

Inverted AR Roots	3.88

Appendix 5
Incremental Tests for Developing Market (Malaysia)

Remove Agency Cost

Dependent Variable: TQ
Method: Panel Least Squares
Date: 10/27/06 Time: 10:42
Sample: 2000 2003
Cross-sections included: 60
Total panel (balanced) observations: 240
White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.055751	0.126532	-0.440607	0.6599
LOGSIZE	0.186225	0.053861	3.457524	0.0006
LOGMC	0.027047	0.012434	2.175300	0.0306
DUALITY	0.051606	0.032600	1.583033	0.1148
PB	43.43079	7.981668	5.441317	0.0000
ROTA	1.083964	0.623367	1.738885	0.0834

R-squared	0.747066	Mean dependent var	1.036073
Adjusted R-squared	0.741661	S.D. dependent var	0.467428
S.E. of regression	0.237580	Akaike info criterion	-0.011943
Sum squared resid	13.20794	Schwarz criterion	0.075073
Log likelihood	7.433209	F-statistic	138.2284
Durbin-Watson stat	1.489364	Prob(F-statistic)	0.000000

Remove Return on Total Assets

Dependent Variable: TQ
Method: Panel Least Squares
Date: 10/27/06 Time: 10:42
Sample: 2000 2003
Cross-sections included: 60
Total panel (balanced) observations: 240
White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.152783	0.166420	-0.918055	0.3595
LOGSIZE	0.237764	0.069607	3.415807	0.0007
LOGMC	0.048987	0.023205	2.111054	0.0358
DUALITY	0.077280	0.032082	2.408812	0.0168
PB	42.00384	10.52408	3.991214	0.0001
AC	-0.175048	0.091231	-1.918734	0.0562

R-squared	0.709630	Mean dependent var	1.036073
Adjusted R-squared	0.703425	S.D. dependent var	0.467428
S.E. of regression	0.254555	Akaike info criterion	0.126084
Sum squared resid	15.16281	Schwarz criterion	0.213100
Log likelihood	-9.130086	F-statistic	114.3736
Durbin-Watson stat	1.589089	Prob(F-statistic)	0.000000

Remove Price to Book Value Ratio

Dependent Variable: TQ
Method: Panel Least Squares
Date: 10/27/06 Time: 10:43
Sample: 2000 2003
Cross-sections included: 60
Total panel (balanced) observations: 240
White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.262431	0.286550	0.915828	0.3607
LOGSIZE	0.213076	0.129726	1.642506	0.1018
LOGMC	0.071169	0.025154	2.829288	0.0051
DUALITY	0.021632	0.072743	0.297378	0.7664
ROTA	0.479646	0.353045	1.358598	0.1756
AC	-0.176663	0.233456	-0.756726	0.4500

R-squared	0.064492	Mean dependent var	1.036073
Adjusted R-squared	0.044503	S.D. dependent var	0.467428
S.E. of regression	0.456909	Akaike info criterion	1.296017
Sum squared resid	48.85120	Schwarz criterion	1.383033
Log likelihood	-149.5221	F-statistic	3.226311
Durbin-Watson stat	0.542131	Prob(F-statistic)	0.007758

Remove Duality

Dependent Variable: TQ
Method: Panel Least Squares
Date: 10/27/06 Time: 10:44
Sample: 2000 2003
Cross-sections included: 60
Total panel (balanced) observations: 240
White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.027695	0.123847	0.223621	0.8232
LOGSIZE	0.174423	0.052592	3.316549	0.0011
LOGMC	0.030983	0.012529	2.472929	0.0141
PB	43.36172	7.960654	5.447004	0.0000
ROTA	1.123126	0.613796	1.829804	0.0686
AC	-0.192739	0.088162	-2.186178	0.0298

R-squared	0.747938	Mean dependent var	1.036073
Adjusted R-squared	0.742552	S.D. dependent var	0.467428
S.E. of regression	0.237170	Akaike info criterion	-0.015396
Sum squared resid	13.16242	Schwarz criterion	0.071620
Log likelihood	7.847571	F-statistic	138.8685
Durbin-Watson stat	1.484586	Prob(F-statistic)	0.000000

Remove Log Market Capitalisation

Dependent Variable: TQ
Method: Panel Least Squares
Date: 10/27/06 Time: 10:45
Sample: 2000 2003
Cross-sections included: 60
Total panel (balanced) observations: 240
White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.063932	0.123078	0.519437	0.6039
LOGSIZE	0.218851	0.059060	3.705543	0.0003
DUALITY	0.053959	0.032122	1.679776	0.0943
PB	43.83232	7.983260	5.490529	0.0000
ROTA	1.166514	0.643454	1.812893	0.0711
AC	-0.164074	0.090999	-1.803031	0.0727

R-squared	0.745785	Mean dependent var	1.036073
Adjusted R-squared	0.740353	S.D. dependent var	0.467428
S.E. of regression	0.238181	Akaike info criterion	-0.006891
Sum squared resid	13.27484	Schwarz criterion	0.080125
Log likelihood	6.826942	F-statistic	137.2960
Durbin-Watson stat	1.495438	Prob(F-statistic)	0.000000

Remove Log Size

Dependent Variable: TQ
Method: Panel Least Squares
Date: 10/27/06 Time: 10:46
Sample: 2000 2003
Cross-sections included: 60
Total panel (balanced) observations: 240
White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.333534	0.073455	4.540658	0.0000
LOGMC	0.038475	0.013567	2.835862	0.0050
DUALITY	0.039091	0.032398	1.206578	0.2288
PB	43.51024	8.044301	5.408828	0.0000
ROTA	1.145025	0.629550	1.818800	0.0702
AC	-0.187170	0.088182	-2.122549	0.0348

R-squared	0.742700	Mean dependent var	1.036073
Adjusted R-squared	0.737202	S.D. dependent var	0.467428
S.E. of regression	0.239622	Akaike info criterion	0.005172
Sum squared resid	13.43595	Schwarz criterion	0.092188
Log likelihood	5.379356	F-statistic	135.0886
Durbin-Watson stat	1.457205	Prob(F-statistic)	0.000000

Appendix 6
Incremental Tests for Cross-market Analysis

Remove Log Pro

Dependent Variable: TQ
Method: Panel Least Squares
Date: 10/27/06 Time: 10:50
Sample: 2000 2003
Cross-sections included: 120
Total panel (balanced) observations: 480
White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.203873	0.279453	0.729543	0.4660
LOGSIZE	0.128362	0.132371	0.969718	0.3327
DUALITY	0.076741	0.060832	1.261525	0.2077
GR	-0.047163	0.025638	-1.839556	0.0665
PB	49.42211	3.712957	13.31071	0.0000
ROTA	1.096663	0.559490	1.960112	0.0506

R-squared	0.776790	Mean dependent var	1.424920
Adjusted R-squared	0.774435	S.D. dependent var	1.759705
S.E. of regression	0.835749	Akaike info criterion	2.491443
Sum squared resid	331.0775	Schwarz criterion	2.543616
Log likelihood	-591.9464	F-statistic	329.9115
Durbin-Watson stat	1.096861	Prob(F-statistic)	0.000000

Remove Return on Total Assets

Dependent Variable: TQ
Method: Panel Least Squares
Date: 10/27/06 Time: 10:56
Sample: 2000 2003
Cross-sections included: 120
Total panel (balanced) observations: 480
White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.673281	0.167950	4.008824	0.0001
LOGSIZE	0.217584	0.165106	1.317841	0.1882
DUALITY	0.178449	0.057246	3.117214	0.0019
GR	-0.092758	0.019801	-4.684417	0.0000
PB	49.89175	3.639645	13.70786	0.0000
LOGPRO	-0.197435	0.079554	-2.481773	0.0134

R-squared	0.776210	Mean dependent var	1.424920
Adjusted R-squared	0.773849	S.D. dependent var	1.759705
S.E. of regression	0.836833	Akaike info criterion	2.494037
Sum squared resid	331.9372	Schwarz criterion	2.546209
Log likelihood	-592.5689	F-statistic	328.8114
Durbin-Watson stat	1.109813	Prob(F-statistic)	0.000000

Remove Price to Book Value Ratio

Dependent Variable: TQ
Method: Panel Least Squares
Date: 10/27/06 Time: 10:57
Sample: 2000 2003
Cross-sections included: 120
Total panel (balanced) observations: 480
White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.173435	0.406243	5.350082	0.0000
LOGSIZE	0.417390	0.242093	1.724088	0.0853
DUALITY	0.066906	0.207632	0.322232	0.7474
GR	-0.163322	0.086983	-1.877624	0.0610
ROTA	5.567504	2.005120	2.776643	0.0057
LOGPRO	-0.647894	0.143062	-4.528757	0.0000

R-squared	0.153946	Mean dependent var	1.424920
Adjusted R-squared	0.145021	S.D. dependent var	1.759705
S.E. of regression	1.627112	Akaike info criterion	3.823912
Sum squared resid	1254.912	Schwarz criterion	3.876084
Log likelihood	-911.7389	F-statistic	17.24958
Durbin-Watson stat	0.659312	Prob(F-statistic)	0.000000

Remove Gearing

Dependent Variable: TQ
Method: Panel Least Squares
Date: 10/27/06 Time: 10:58
Sample: 2000 2003
Cross-sections included: 120
Total panel (balanced) observations: 480
White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.441378	0.168483	2.619721	0.0091
LOGSIZE	0.198288	0.161942	1.224441	0.2214
DUALITY	0.131860	0.052434	2.514778	0.0122
PB	49.09067	3.608487	13.60423	0.0000
ROTA	0.997007	0.526411	1.893969	0.0588
LOGPRO	-0.135516	0.070545	-1.921004	0.0553

R-squared	0.777763	Mean dependent var	1.424920
Adjusted R-squared	0.775419	S.D. dependent var	1.759705
S.E. of regression	0.833924	Akaike info criterion	2.487072
Sum squared resid	329.6334	Schwarz criterion	2.539244
Log likelihood	-590.8973	F-statistic	331.7721
Durbin-Watson stat	1.100317	Prob(F-statistic)	0.000000

Remove Duality

Dependent Variable: TQ
Method: Panel Least Squares
Date: 10/27/06 Time: 11:02
Sample: 2000 2003
Cross-sections included: 120
Total panel (balanced) observations: 480
White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.510844	0.174135	2.933611	0.0035
LOGSIZE	0.171771	0.164189	1.046178	0.2960
GR	-0.067712	0.016700	-4.054681	0.0001
PB	48.99665	3.644199	13.44511	0.0000
ROTA	1.016126	0.527604	1.925925	0.0547
LOGPRO	-0.122542	0.070555	-1.736832	0.0831

R-squared	0.777608	Mean dependent var	1.424920
Adjusted R-squared	0.775262	S.D. dependent var	1.759705
S.E. of regression	0.834216	Akaike info criterion	2.487772
Sum squared resid	329.8643	Schwarz criterion	2.539945
Log likelihood	-591.0653	F-statistic	331.4736
Durbin-Watson stat	1.099562	Prob(F-statistic)	0.000000

Remove Log Size

Dependent Variable: TQ
Method: Panel Least Squares
Date: 10/27/06 Time: 11:03
Sample: 2000 2003
Cross-sections included: 120
Total panel (balanced) observations: 480
White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.831181	0.142645	5.826915	0.0000
DUALITY	0.114299	0.060810	1.879607	0.0608
GR	-0.072454	0.017918	-4.043639	0.0001
PB	49.11969	3.630743	13.52883	0.0000
ROTA	0.965582	0.541772	1.782268	0.0753
LOGPRO	-0.120804	0.042168	-2.864849	0.0044

R-squared	0.777344	Mean dependent var	1.424920
Adjusted R-squared	0.774995	S.D. dependent var	1.759705
S.E. of regression	0.834711	Akaike info criterion	2.488958
Sum squared resid	330.2557	Schwarz criterion	2.541130
Log likelihood	-591.3499	F-statistic	330.9683
Durbin-Watson stat	1.098311	Prob(F-statistic)	0.000000

Appendix 7
Tests of Best Fit for Developed and Developing Markets

Developed Market (Australia)

Dependent Variable: TQ
Method: Panel Least Squares
Date: 11/09/06 Time: 20:19
Sample (adjusted): 2001 2003
Cross-sections included: 60
Total panel (balanced) observations: 180
White diagonal standard errors & covariance (d.f. corrected)
Convergence achieved after 7 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.775032	0.050225	15.43107	0.0000
SIZE	-0.021366	0.005210	-4.101273	0.0001
DUALITY	0.041182	0.109886	0.374771	0.7083
GR	-0.000813	0.000252	-3.222756	0.0015
MC	2.25E-06	1.72E-06	1.305100	0.1936
PB	0.439801	0.016391	26.83216	0.0000
AC	0.000443	0.000609	0.726461	0.4685
AR(1)	3.901506	1.717406	2.271744	0.0243

R-squared	0.877876	Mean dependent var	1.943498
Adjusted R-squared	0.872906	S.D. dependent var	2.688244
S.E. of regression	0.958365	Akaike info criterion	2.796251
Sum squared resid	157.9759	Schwarz criterion	2.938161
Log likelihood	-243.6626	F-statistic	176.6296
Durbin-Watson stat	1.436815	Prob(F-statistic)	0.000000

Inverted AR Roots	3.90

Developing Market (Malaysia)

Dependent Variable: TQ
Method: Panel Least Squares
Date: 11/09/06 Time: 20:20
Sample: 2000 2003
Cross-sections included: 60
Total panel (balanced) observations: 240
White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.283589	0.087490	3.241373	0.0014
SIZE	0.028366	0.008006	3.543263	0.0005
AC	-0.001579	0.000921	-1.713593	0.0879
DUALITY	0.052446	0.032017	1.638075	0.1028
PB	0.437935	0.080207	5.460092	0.0000
ROTA	0.011593	0.006450	1.797400	0.0736
MC	5.03E-06	5.28E-06	0.951499	0.3423

R-squared	0.746089	Mean dependent var	1.036073
Adjusted R-squared	0.739551	S.D. dependent var	0.467428
S.E. of regression	0.238548	Akaike info criterion	0.000244
Sum squared resid	13.25894	Schwarz criterion	0.101762
Log likelihood	6.970757	F-statistic	114.1076
Durbin-Watson stat	1.495534	Prob(F-statistic)	0.000000

Appendix 8
Original Model for the Developed Market (Australia)

Dependent Variable: TQ
Method: Panel Least Squares
Date: 12/21/06 Time: 19:48
Sample: 2000 2003
Cross-sections included: 60
Total panel (balanced) observations: 240
White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.226869	0.352250	0.644057	0.5202
LOGSIZE	0.383026	0.416841	0.918878	0.3591
LOGMC	-0.048661	0.060743	-0.801106	0.4239
DUALITY	0.462969	0.222273	2.082885	0.0384
GR	-0.040165	0.082779	-0.485209	0.6280
PB	50.34205	3.995628	12.59929	0.0000
AC	-0.409505	0.460001	-0.890227	0.3743

R-squared	0.769736	Mean dependent var	1.813766
Adjusted R-squared	0.763807	S.D. dependent var	2.384098
S.E. of regression	1.158665	Akaike info criterion	3.161147
Sum squared resid	312.8037	Schwarz criterion	3.262666
Log likelihood	-372.3377	F-statistic	129.8138
Durbin-Watson stat	1.074871	Prob(F-statistic)	0.000000

Appendix 9
Results for Factor Analysis

Descriptive Statistics

Variables	Mean	Std. Deviation	Analysis N
PM	0.1324	0.41912	480
ROTA	0.0680	0.09694	480
PB	0.0182	0.03058	480
CF	0.3175	0.56612	480
MC	5.3140	1.71486	480
CR	0.0213	0.01847	480
GR	0.4765	0.61937	480
Duality	0.1667	0.37307	480
Log Size	1.9852	0.29939	480
AC	0.2871	0.17138	480
Log Pro	2.9159	0.51859	480
TQ	1.4249	1.75971	480

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.610
Bartlett's Test of Sphericity	Approx. Chi-Square	1661.813
	df	66
	Sig.	0.000

Component Matrix(a)

Variables	Component				
	1	2	3	4	5
PM	0.256	0.036	0.096	0.644	0.074
ROTA	0.519	0.370	0.170	0.443	0.193
PB	0.637	0.618	-0.007	-0.357	0.022
CF	0.556	-0.356	0.339	0.161	0.115
MC	0.728	-0.324	0.263	0.095	-0.073
CR	-0.310	0.399	0.088	0.453	-0.130
GR	0.162	-0.455	-0.024	-0.290	0.627
Duality	-0.294	0.343	-0.026	0.170	0.685
Log Size	-0.019	-0.024	0.821	-0.165	-0.235
AC	-0.358	0.046	0.637	-0.161	0.279
Log Pro	-0.737	0.339	0.295	-0.086	0.002
TQ	0.629	0.641	-0.005	-0.339	0.020

Extraction method: Principal Component Analysis.
a 5 components extracted.

Communalities

Variables	Initial	Extraction
PM	1.000	0.497
ROTA	1.000	0.669
PB	1.000	0.915
CF	1.000	0.590
MC	1.000	0.719
CR	1.000	0.485
GR	1.000	0.712
Duality	1.000	0.704
Log Size	1.000	0.757
AC	1.000	0.640
Log Pro	1.000	0.752
TQ	1.000	0.922

Extraction method: Principal Component Analysis.

Rotated Component Matrix(a)

Variables	Component				
	1	2	3	4	5
PM	0.208	-0.076	-0.091	0.662	0.027
ROTA	0.232	0.398	-0.018	0.664	0.128
PB	0.091	0.951	-0.043	0.010	-0.023
CF	0.727	0.015	0.136	0.206	-0.006
MC	0.788	0.157	0.036	0.170	-0.208
CR	-0.469	-0.080	0.095	0.495	-0.071
GR	0.487	-0.095	-0.030	-0.370	0.573
Duality	-0.326	0.026	0.043	0.225	0.738
Log Size	0.150	0.038	0.812	0.003	-0.272
AC	-0.106	-0.097	0.727	-0.059	0.295
Log Pro	-0.686	-0.152	0.494	-0.046	0.110
TQ	0.072	0.956	-0.041	0.033	-0.022

Extraction method: Principal Component Analysis.
Rotation method: Varimax with Kaiser Normalization.
Rotation converged in 7 iterations.

Appendix 10
Regression Results for Developed Market (Australia)

Dependent Variable: TQ
Method: Panel Least Squares
Date: 03/30/06 Time: 12:53
Sample (adjusted): 2001 2003
Cross-sections included: 60
Total panel (balanced) observations: 180
White diagonal standard errors & covariance (d.f. corrected)
Convergence achieved after 8 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.780355	0.080427	9.702670	0.0000
LOGSIZE	-0.163817	0.049909	-3.282301	0.0012
LOGMC	0.025304	0.009393	2.693892	0.0078
DUALITY	0.054854	0.113870	0.481723	0.6306
GR	-0.089902	0.027557	-3.262345	0.0013
PB	43.79580	1.608851	27.22179	0.0000
AC	0.067250	0.065096	1.033094	0.3030
AR(1)	3.874505	1.700943	2.277857	0.0240

R-squared	0.877778	Mean dependent var	1.943498
Adjusted R-squared	0.872804	S.D. dependent var	2.688244
S.E. of regression	0.958749	Akaike info criterion	2.797051
Sum squared resid	158.1023	Schwarz criterion	2.938961
Log likelihood	-243.7346	F-statistic	176.4687
Durbin-Watson stat	1.426563	Prob(F-statistic)	0.000000

Inverted AR Roots 3.87
Estimated AR process is nonstationary

Appendix 11
Regression Results for Developing Market (Malaysia)

Dependent Variable: TQ
Method: Panel Least Squares
Date: 03/30/06 Time: 18:00
Sample: 2000 2003
Cross-sections included: 60
Total panel (balanced) observations: 240
White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.012619	0.129603	-0.097368	0.9225
LOGSIZE	0.189101	0.053747	3.518385	0.0005
DUALITY	0.052110	0.032574	1.599721	0.1110
PB	43.44920	7.995256	5.434372	0.0000
ROTA	1.092492	0.620235	1.761416	0.0795
AC	-0.194110	0.090251	-2.150785	0.0325
LOGMC	0.030418	0.012420	2.449065	0.0151

R-squared	0.750299	Mean dependent var	1.036073
Adjusted R-squared	0.743869	S.D. dependent var	0.467428
S.E. of regression	0.236563	Akaike info criterion	-0.016474
Sum squared resid	13.03913	Schwarz criterion	0.085045
Log likelihood	8.976837	F-statistic	116.6858
Durbin-Watson stat	1.507531	Prob(F-statistic)	0.000000

Appendix 12
Regression Results for Cross-market Analysis

Dependent Variable: TQ
Method: Panel Least Squares
Date: 04/09/06 Time: 17:37
Sample: 2000 2003
Cross-sections included: 120
Total panel (balanced) observations: 480
White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.541557	0.174988	3.094821	0.0021
GR	-0.075036	0.017184	-4.366702	0.0000
DUALITY	0.143139	0.052607	2.720901	0.0068
PB	49.03043	3.613480	13.56875	0.0000
LOGSIZE	0.202530	0.161700	1.252501	0.2110
ROTA	0.931922	0.521638	1.786530	0.0747
LOGPRO	-0.159247	0.068722	-2.317270	0.0209

R-squared	0.778415	Mean dependent var	1.424920
Adjusted R-squared	0.775605	S.D. dependent var	1.759705
S.E. of regression	0.833579	Akaike info criterion	2.488300
Sum squared resid	328.6661	Schwarz criterion	2.549168
Log likelihood	-590.1920	F-statistic	276.9375
Durbin-Watson stat	1.103353	Prob(F-statistic)	0.000000

Appendix 13
Australian Model:
Test for the Complementarities of Internal Corporate Governance Mechanism (Remove Duality)

Dependent Variable: TQ
Method: Panel Least Squares
Date: 03/30/06 Time: 12:54
Sample (adjusted): 2001 2003
Cross-sections included: 60
Total panel (balanced) observations: 180
White diagonal standard errors & covariance (d.f. corrected)
Convergence achieved after 7 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.815775	0.093434	8.730988	0.0000
LOGSIZE	-0.179710	0.060569	-2.967045	0.0034
LOGMC	0.024932	0.009145	2.726338	0.0071
PB	43.76380	1.591676	27.49541	0.0000
GR	-0.093700	0.027988	-3.347823	0.0010
AC	0.081439	0.075745	1.075169	0.2838
AR(1)	3.847023	1.650471	2.330863	0.0209

R-squared	0.877615	Mean dependent var	1.943498
Adjusted R-squared	0.873371	S.D. dependent var	2.688244
S.E. of regression	0.956612	Akaike info criterion	2.787274
Sum squared resid	158.3133	Schwarz criterion	2.911445
Log likelihood	-243.8547	F-statistic	206.7627
Durbin-Watson stat	1.424547	Prob(F-statistic)	0.000000

Inverted AR Roots 3.85
Estimated AR process is nonstationary

Appendix 14
Australian Model:
Test for the Complementarities of Internal Corporate Governance Mechanism (Remove Size)

Dependent Variable: TQ
Method: Panel Least Squares
Date: 03/30/06 Time: 12:55
Sample (adjusted): 2001 2003
Cross-sections included: 60
Total panel (balanced) observations: 180
White diagonal standard errors & covariance (d.f. corrected)
Convergence achieved after 7 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.591195	0.049026	12.05886	0.0000
DUALITY	0.121828	0.114923	1.060087	0.2906
LOGMC	0.007772	0.007137	1.089045	0.2776
PB	43.81656	1.610108	27.21343	0.0000
GR	-0.070504	0.027525	-2.561479	0.0113
AC	-0.046290	0.067958	-0.681157	0.4967
AR(1)	3.884691	1.727191	2.249138	0.0258

R-squared	0.875464	Mean dependent var	1.943498
Adjusted R-squared	0.871145	S.D. dependent var	2.688244
S.E. of regression	0.964984	Akaike info criterion	2.804701
Sum squared resid	161.0964	Schwarz criterion	2.928872
Log likelihood	-245.4231	F-statistic	202.6925
Durbin-Watson stat	1.400759	Prob(F-statistic)	0.000000

Inverted AR Roots 3.88
Estimated AR process is nonstationary

Appendix 15
Malaysian Model:
Test for the Complementarities of Internal Corporate Governance Mechanism (Remove Duality)

Dependent Variable: TQ
Method: Panel Least Squares
Date: 03/30/06 Time: 18:06
Sample: 2000 2003
Cross-sections included: 60
Total panel (balanced) observations: 240
White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.027695	0.123847	0.223621	0.8232
LOGSIZE	0.174423	0.052592	3.316549	0.0011
ROTA	1.123126	0.613796	1.829804	0.0686
AC	-0.192739	0.088162	-2.186178	0.0298
PB	43.36172	7.960654	5.447004	0.0000
LOGMC	0.030983	0.012529	2.472929	0.0141

R-squared	0.747938	Mean dependent var	1.036073
Adjusted R-squared	0.742552	S.D. dependent var	0.467428
S.E. of regression	0.237170	Akaike info criterion	-0.015396
Sum squared resid	13.16242	Schwarz criterion	0.071620
Log likelihood	7.847571	F-statistic	138.8685
Durbin-Watson stat	1.484586	Prob(F-statistic)	0.000000

Appendix 16
Malaysian Model:
Test for the Complementarities of Internal Corporate Governance Mechanism (Remove Size)

Dependent Variable: TQ
Method: Panel Least Squares
Date: 03/30/06 Time: 18:05
Sample: 2000 2003
Cross-sections included: 60
Total panel (balanced) observations: 240
White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.333534	0.073455	4.540658	0.0000
DUALITY	0.039091	0.032398	1.206578	0.2288
ROTA	1.145025	0.629550	1.818800	0.0702
AC	-0.187170	0.088182	-2.122549	0.0348
PB	43.51024	8.044301	5.408828	0.0000
LOGMC	0.038475	0.013567	2.835862	0.0050

R-squared	0.742700	Mean dependent var	1.036073
Adjusted R-squared	0.737202	S.D. dependent var	0.467428
S.E. of regression	0.239622	Akaike info criterion	0.005172
Sum squared resid	13.43595	Schwarz criterion	0.092188
Log likelihood	5.379356	F-statistic	135.0886
Durbin-Watson stat	1.457205	Prob(F-statistic)	0.000000

Appendix 17
Cross-market Analysis:
Test for the Complementarities of Internal Corporate Governance Mechanism
(Remove Duality)

Dependent Variable: TQ
Method: Panel Least Squares
Date: 04/09/06 Time: 17:43
Sample: 2000 2003
Cross-sections included: 120
Total panel (balanced) observations: 480
White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.232160	0.290996	0.797811	0.4254
GR	-0.046623	0.024677	-1.889320	0.0595
ROTA	1.124417	0.556379	2.020956	0.0438
LOGSIZE	0.120160	0.136400	0.880936	0.3788
PB	49.34763	3.711418	13.29617	0.0000

R-squared	0.776530	Mean dependent var	1.424920
Adjusted R-squared	0.774648	S.D. dependent var	1.759705
S.E. of regression	0.835354	Akaike info criterion	2.488441
Sum squared resid	331.4631	Schwarz criterion	2.531918
Log likelihood	-592.2258	F-statistic	412.6405
Durbin-Watson stat	1.095675	Prob(F-statistic)	0.000000

Appendix 18
Cross-market Analysis:
Test for the Complementarities of Internal Corporate Governance Mechanism (Remove Size)

Dependent Variable: TQ
Method: Panel Least Squares
Date: 04/09/06 Time: 17:44
Sample: 2000 2003
Cross-sections included: 120
Total panel (balanced) observations: 480
White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.461913	0.054558	8.466522	0.0000
GR	-0.050045	0.023113	-2.165225	0.0309
ROTA	1.092416	0.563642	1.938137	0.0532
DUALITY	0.067834	0.066252	1.023879	0.3064
PB	49.41843	3.693847	13.37858	0.0000

R-squared	0.776317	Mean dependent var	1.424920
Adjusted R-squared	0.774434	S.D. dependent var	1.759705
S.E. of regression	0.835751	Akaike info criterion	2.489390
Sum squared resid	331.7779	Schwarz criterion	2.532867
Log likelihood	-592.4536	F-statistic	412.1362
Durbin-Watson stat	1.094522	Prob(F-statistic)	0.000000

Appendix 19
Cross-market Analysis:
Test for the Complementarities of Internal and External Corporate Governance Mechanism
(Remove External Corporate Governance Mechanism)

Dependent Variable: TQ
Method: Panel Least Squares
Date: 04/09/06 Time: 17:38
Sample: 2000 2003
Cross-sections included: 120
Total panel (balanced) observations: 480
White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.203873	0.279453	0.729543	0.4660
GR	-0.047163	0.025638	-1.839556	0.0665
DUALITY	0.076741	0.060832	1.261525	0.2077
PB	49.42211	3.712957	13.31071	0.0000
LOGSIZE	0.128362	0.132371	0.969718	0.3327
ROTA	1.096663	0.559490	1.960112	0.0506

R-squared	0.776790	Mean dependent var	1.424920
Adjusted R-squared	0.774435	S.D. dependent var	1.759705
S.E. of regression	0.835749	Akaike info criterion	2.491443
Sum squared resid	331.0775	Schwarz criterion	2.543616
Log likelihood	-591.9464	F-statistic	329.9115
Durbin-Watson stat	1.096861	Prob(F-statistic)	0.000000

Appendix 20
Cross-market Analysis:
Tests for the Complementarities of Internal and External Corporate Governance Mechanism
(Remove Internal Corporate Governance Mechanism)

Dependent Variable: TQ
Method: Panel Least Squares
Date: 04/09/06 Time: 17:41
Sample: 2000 2003
Cross-sections included: 120
Total panel (balanced) observations: 480
White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.769650	0.157263	4.894038	0.0000
GR	-0.066744	0.017027	-3.919941	0.0001
ROTA	1.030732	0.540635	1.906522	0.0572
LOGPRO	-0.095379	0.047073	-2.026203	0.0433
PB	49.08070	3.655295	13.42729	0.0000

R-squared	0.776812	Mean dependent var	1.424920
Adjusted R-squared	0.774933	S.D. dependent var	1.759705
S.E. of regression	0.834826	Akaike info criterion	2.487175
Sum squared resid	331.0438	Schwarz criterion	2.530652
Log likelihood	-591.9220	F-statistic	413.3135
Durbin-Watson stat	1.095897	Prob(F-statistic)	0.000000