UNIVERSITY OF SOUTHAMPTON

FACULTY OF LAW, ARTS AND SOCIAL SCIENCES

School of Management

Tax Planning and Corporate Governance: Effects on Shareholders' Valuation

by

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ABSTRACT

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Tax planning by large companies has been widely and publicly discussed due to its implications for the level of provision of public goods and more general social issues. In the U.K., tax avoidance, as estimated by Her Majesty's Revenue and Customs' anti-avoidance group, leads to several billion pounds of lost revenue each year. Consequently, the authorities implement tax investigation through risk classification assessments. The prospect of an adverse assessment may influence company directors when making tax planning decisions and similar risk concerns may influence shareholders in valuing tax planning activities. This study reports the results of an investigation of the relationship between firm value and tax planning whilst simultaneously considering corporate governance as a moderating influence. The sample of firms examined consists of non-financial London Stock Exchange-listed companies from 2005 to 2007. The results indicate a negative relationship between firm value and tax planning activities which is unconditional upon corporate governance conditions for both persistent and non-persistent profit-making companies. This relationship can be further explained as being related to the permanent differences component of tax saving where firm value is reported as negatively related to permanent differences. The findings of this study contribute to the body of knowledge since there is a general dearth of published research study from outside the U.S. that investigates these relationships.

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Abbreviations

AIM	Alternative Investment Market
BODUM	Bonus or option dummy variable
BSIZE	Board size
BVE	Book value of equity
CAPINT	Capital intensity
CC	Capital contribution
CEO(s)	Chief executive officer(s)
CFO(s)	Chief financial officer(s)
DIV	Dividend payout
DJ	Dow Jones
DOC	Domestic-only companies
DOWN	Director ownership
DTI	Department of Trade and Industry
DV	Dependent variable
EM	Earnings management
EMH	Efficient market hypothesis
ETR	Effective tax rates
EU	European Union
FRC	Financial Reporting Council
FS	Foreign sales
FTSE	Financial Time-Stock Exchange
GAAP	Generally Accepted Accounting Principles
HMRC	Her Majesty's Revenue and Customs
INDDUM	Industry dummy
IOWN	Institutional ownership
ISS	Institutional Investor Services
IV	Instrument variable
LEV	Leverage
LSE	London Stock Exchange
MDIR	Multi-directorship
MNC	Multinational companies
MTR	Marginal tax rates
MVE	Market value of equity
NED	Non-executive directors
NGO(s)	Non-Governmental Group(s)
NOL(s)	Net operating loss(es)
NPSTDUM_TFTR	Interaction variable between non-persistent profit makers dummy and foreign tax rates differentials
NPSTDUM_TLOSS	Interaction variable between non-persistent profit

	makers dummy and tax losses
NPSTDUM_TPD	Interaction variable between non-persistent profit makers dummy and permanent differences
NPSTDUM_TTD	Interaction variable between non-persistent profit makers dummy and temporary differences
NPSTDUM_TUNC	Interaction variable between non-persistent profit makers dummy and unclassified items
NPSTDUMTFTR_IOWN	Interaction variable between foreign tax rates differentials of non-persistent profit makers and institutional ownership
NPSTDUMTFTR_NED	Interaction variable between foreign tax rates differentials of non-persistent profit makers and non-executive directors
NPSTDUMTLOSS_IOWN	Interaction variable between tax losses of non-persistent profit makers and institutional ownership
NPSTDUMTLOSS_NED	Interaction variable between tax losses of non-persistent profit makers and non-executive directors
NPSTDUMTPD_IOWN	Interaction variable between permanent differences of non-persistent profit makers and institutional ownership
NPSTDUMTPD_NED	Interaction variable between permanent differences of non-persistent profit makers and non-executive directors
NPSTDUMTS	Interaction variable between non-persistent profit makers dummy and tax saving
NPSTDUMTS_IOWN	Interaction variable between tax saving of non-persistent profit makers and institutional ownership
NPSTDUMTS_NED	Interaction variable between tax saving of non-persistent profit makers and non-executive directors
NPSTDUMTTD_IOWN	Interaction variable between temporary differences of non-persistent profit makers and institutional ownership
NPSTDUMTTD_NED	Interaction variable between temporary differences of non-persistent profit makers and non-executive directors
NPSTDUMTUNC_IOWN	Interaction variable between unclassified items of non-persistent profit makers and institutional ownership
NPSTDUMTUNC_NED	Interaction variable between unclassified items of non-persistent profit makers and non-executive directors
NPV	Net present value
OECD	The Organization for Economic Co-Operation and Development
OLS	Ordinary least square
PAT	Profit after tax

PBT	Profit before tax
R^2	R-squared
ROE	Return on equity
SAL	Executive salary
STR	Statutory tax rates
TFTR	Foreign tax rates differentials
TFTR_IOWN	Interaction variable between foreign tax rates differentials and institutional ownership
TFTR_NED	Interaction variable between foreign tax rates differentials and non-executive directors
TI	Taxable income
TLOSS	Tax losses
TLOSS_IOWN	Interaction variable between tax losses and institutional ownership
TLOSS_NED	Interaction variable between tax losses and non-executive directors
TPD	Permanent differences
TPD_IOWN	Interaction variable between permanent differences and institutional ownership
TPD_NED	Interaction variable between permanent differences and non-executive directors
TS	Tax saving
TS_IOWN	Interaction variable between tax saving and institutional ownership
TS_NED	Interaction variable between tax saving and non-executive directors
TTD	Temporary differences
TTD_IOWN	Interaction variable between temporary differences and institutional ownership
TTD_NED	Interaction variable between temporary differences and non-executive directors
TUNC	Unclassified items
TUNC_IOWN	Interaction variable between unclassified items and institutional ownership
TUNC_NED	Interaction variable between unclassified items and non-executive directors
U.K.	United Kingdom
U.S.	United States of America
VIF	Variance inflation factors

Chapter 1

Introduction

This thesis aims to examine the relationship between firm value and tax planning whilst simultaneously considering the role of corporate governance as a moderating influence. As the effects of tax planning cannot be observed directly by external researchers, this study uses a number of proxies to examine the above relationships. After controlling for firm-specific characteristics, for example capital intensity, leverage, dividend, earnings management, extent of foreign operation and industry membership, this study firstly examines the relationship between firm value and tax planning and secondly investigates how corporate governance may moderate the relationship. The Scholes-Wolfson tax planning framework (Scholes and Wolfson, 1992) and the agency theory (Jensen and Meckling, 1976) underlie the hypotheses development. The empirical analysis is based on Ohlson's firm valuation model (Ohlson, 1995) where the model, under clean surplus accounting relation, examines the association between firm market value and accounting data. The following sections of this chapter are organised so as to present the background and motivations of this study, research objectives, research questions and an overview of the research methodology. The following subsequent sections discuss the significance of this study and the thesis structure.

1.1 Background and Motivations

U.K. company tax planning issues have been an increased concern of several parties including Non-Governmental Groups (NGOs) (Christian Aid, 2009; Oxfam, 2009; Trade Union Congress, 2009) and governmental agencies (OECD, 1988; Council of Economics and Finance Ministers, 1997). This is due to tax planning's potentially negative effects on the level of provision of public goods which can then contribute to social issues (Slemrod, 2004; Sikka, 2010). The U.K. tax authority, Her Majesty's Revenue and Customs (HMRC), has also become increasingly aware of this issue and has been continuously taking action to reduce the tax avoidance, which was recently estimated to be in the range of £2.1 billion to £6.6 billion per year (Timms, 2009).[1] One of the authority's strategies to reduce this annual lost revenue within the large companies is through implementing tax risk classification assessments. Through this assessment, companies are evaluated in terms of their potential involvement in tax planning prior to any HMRC inspection (Hampton, 2005; Varney, 2006). It is important to apply this assessment as the distribution of corporation tax paid by these companies is highly skewed; for example, for the year of assessment 2005/2006, 220 out of 700 large companies paid no corporation tax (National Audit Office Great Britain, 2007). This suggests that nearly one third of the large companies were likely to be involved in tax planning activities. In fact, the U.K.'s biggest companies are said to employ "complex and secretive" tax arrangements in limiting their tax payments (The Guardian, 2009). This may be due to two factors: firstly, the ambiguity of legislation (National Audit Office Great Britain, 2007) and/or secondly, the characteristics of those large companies that create tax planning opportunities, for example, operation in multiple tax jurisdictions.

These increased attentions and actions are aimed at influencing shareholders' confidence in the expected benefit of tax planning decisions by the company management (SustainAbility Ltd, 2006). However, due to lack of information about tax governance-related information (Henderson Global Investors, 2005),

[1] As published by HMRC in March 2009 but relating to the start of the decade.

shareholders may value tax planning differently. This information asymmetry evidence is documented by Henderson Global Investors (2005). The evidence shows considerable reluctance by management to disclose tax governance-related information to their shareholders, particularly about risk management of the company's tax affairs. Therefore, considering both perceived benefits and risks of tax planning, shareholders are expected to consider tax planning activities in their valuation. However, there is a lack of empirical research studies that investigate this valuation behaviour, particularly in the U.K.

Based on the above discussions, this study examines whether share prices reflect companies' tax planning. As corporate governance practices and information are important to the shareholders in assessing the effectiveness of the company management (Henderson Global Investors, 2005; Desai and Dharmapala, 2009), the role of corporate governance is examined in the above-mentioned relationship. However, there is a general dearth of published research from outside the U.S. that investigates the relationships. To the researcher's knowledge, there is no published research that investigates the impact of corporate governance on the relationship between firm value and U.K. companies' tax planning activities. This is a further motivation to carry out this research.

Thus, the focus of attention of this study is related to the following two questions:

1. How do shareholders view corporate tax planning?
   This question is related to how the share market interprets companies' tax planning activities by examining shareholders' valuation of tax planning activities carried out by managers.

2. Do corporate governance practices lead to variations in valuation of corporate income tax planning within companies?
   If there is tax planning information asymmetry between shareholders and managers, corporate governance practices may limit or provide reassurance to shareholders on managers' incentives in tax planning decision-making.

Therefore, this question attempts to seek answers on whether corporate governance moderates the relationship between firm value and tax planning.

1.2 Research Objectives

The primary objective of this study is to investigate the relationship between firm value and tax planning of U.K. public listed companies whilst simultaneously considering the role of corporate governance as a moderating influence. The specific objectives are as follows:

1. To investigate the level of tax planning activities of U.K. public listed companies.
2. To examine the relationship between firm value and the level of tax planning activity.
3. To examine the relationship between firm value and the components of tax saving, namely permanent differences, temporary differences, tax losses and foreign tax rates differentials.
4. To investigate whether there are differences in the nature of market valuation of each component.
5. To examine the moderating effects of corporate governance on the relationship between firm value and tax planning.
6. To examine the moderating effects of corporate governance on the relationship between firm value and the components of tax saving.

1.3 Research Questions

The research questions of this study are raised in order to provide answers to achieve the above-mentioned research objectives. The following two questions are related to the relationship between firm value and tax planning activity:

1. Does the firm value of persistent profit-making companies relate to the extent of their tax planning activities?

2. Does the firm value of non-persistent profit-making companies relate to the extent of their tax planning activities?

Each of the above questions respectively focuses on persistent profit-making companies and non-persistent profit-making companies, as there is an argument that companies' ability to pursue effective tax planning is related to their earning persistency. Persistent profit-making companies are argued to have more incentives to conduct effective tax planning compared to their non-persistent counterparts (Mills, Erickson and Maydew, 1998).

To further examine shareholders' tax planning valuation, an analysis of the components of tax saving will be examined in the following 10 questions (question 3 – question 12). Answering these questions will add to an understanding of which component(s) is(are) related to the shareholders' valuation. This provides an insight into the factors that contribute to the above firm value-tax planning relationship (question 1 and question 2).

3. Does the firm value of persistent profit-making companies relate to the extent of their permanent differences component of tax saving?
4. Does the firm value of persistent profit-making companies relate to the extent of their temporary differences component of tax saving?
5. Does the firm value of persistent profit-making companies relate to the extent of their tax losses component of tax saving?
6. Does the firm value of persistent profit-making companies relate to the extent of their foreign tax rates differentials component of tax saving?
7. Do the relationships between firm value and each component of tax saving (i.e. permanent differences, temporary differences, tax losses and foreign tax rates differentials) of persistent profit-making companies vary?
8. Does the firm value of non-persistent profit-making companies relate to the extent of their permanent differences component of tax saving?
9. Does the firm value of non-persistent profit-making companies relate to the extent of their temporary differences component of tax saving?
10. Does the firm value of non-persistent profit-making companies relate to the extent of their tax losses component of tax saving?

11. Does the firm value of non-persistent profit-making companies relate to the extent of their foreign tax rates differentials component of tax saving?
12. Do the relationships between firm value and each component of tax saving (i.e. permanent differences, temporary differences, tax losses and foreign tax rates differentials) of non-persistent profit-making companies vary?

The following research questions (question 13 - question 22) are related to the potential moderating effects of corporate governance on any relationship between firm value and tax planning. The moderating effects may vary between persistent profit-making companies and non-persistent profit-making companies because of shareholders' differing perceptions of moral hazard risk implications and tax planning benefits. This is due to the ability of accounting profit to influence shareholders' perceptions of managers' performance (Scholes and Wolfson, 1992; Tzovas, 2006). Based on the perception that fluctuating accounting profit may indicate managers' poor performance, shareholders may attach less weight to the ability of corporate governance practices of non-persistent profit-making companies in reducing the costs and risks of tax planning. Therefore, the following questions reflect the potential moderating effects of corporate governance for both persistent and non-persistent profit-making companies:

13. Do corporate governance practices moderate the relationship between firm value and tax planning of persistent profit-making companies?
14. Do corporate governance practices moderate the relationship between firm value and tax planning of non-persistent profit-making companies?
15. Do corporate governance practices moderate the relationship between firm value and the permanent differences component of tax saving of persistent profit-making companies?
16. Do corporate governance practices moderate the relationship between firm value and the temporary differences component of tax saving of persistent profit-making companies?
17. Do corporate governance practices moderate the relationship between firm value and the tax losses component of tax saving of persistent profit-making companies?

18. Do corporate governance practices moderate the relationship between firm value and the foreign tax rates differentials component of tax saving of persistent profit-making companies?
19. Do corporate governance practices moderate the relationship between firm value and the permanent differences component of tax saving of non-persistent profit-making companies?
20. Do corporate governance practices moderate the relationship between firm value and the temporary differences component of tax saving of non-persistent profit-making companies?
21. Do corporate governance practices moderate the relationship between firm value and the tax losses component of tax saving of non-persistent profit-making companies?
22. Do corporate governance practices moderate the relationship between firm value and the foreign tax rates differentials component of tax saving of non-persistent profit-making companies?

All of the above questions have been hypothesised in alternative forms, as discussed in Chapter 5. The summary of the hypotheses, their tested variables and the reference to the results table are as presented in Table 8.1 of Chapter 8 Summary, Contributions and Recommendations.

1.4 Research Methodology

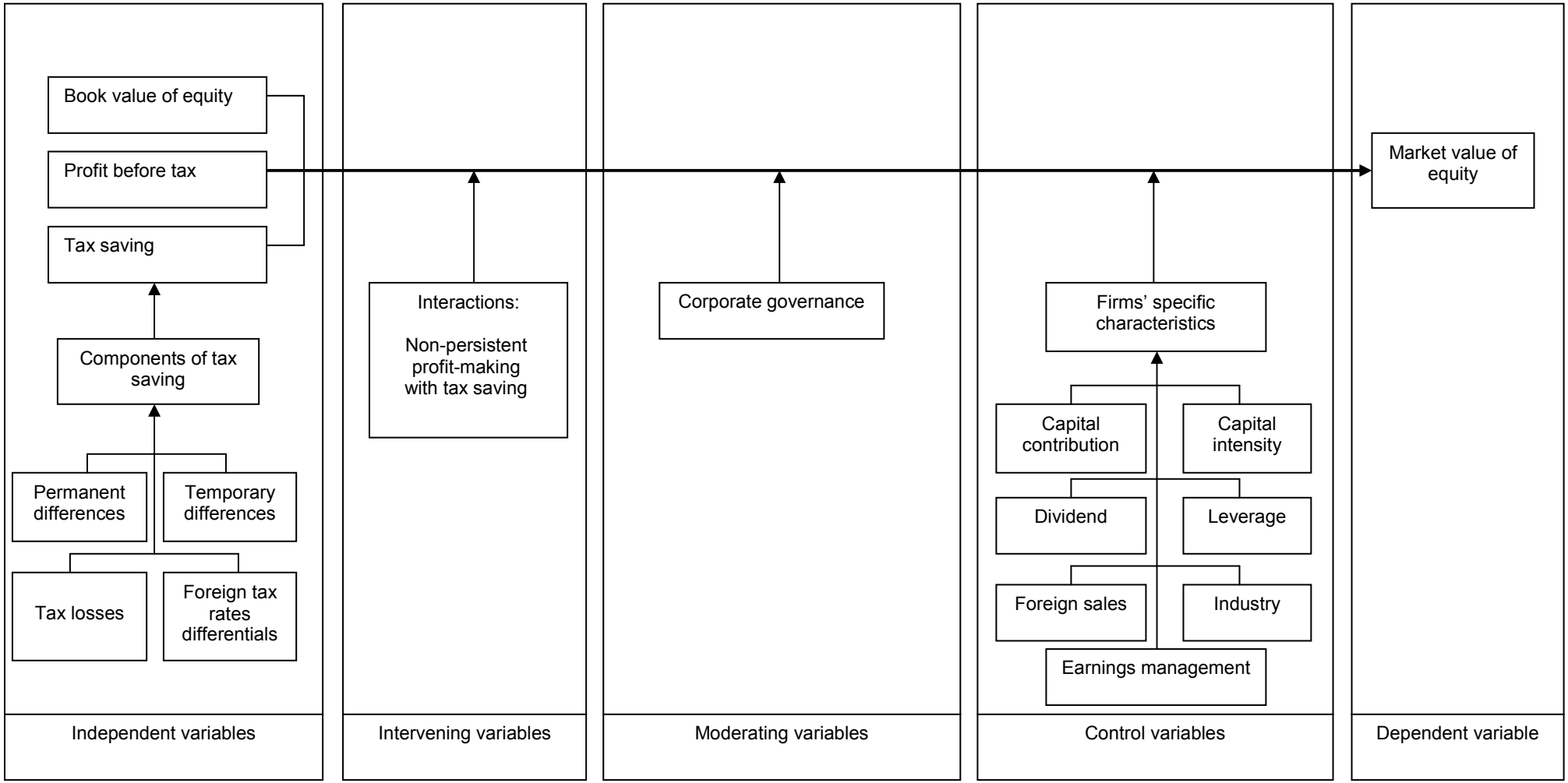
This study applies a quantitative research methodology. The sample frame is non-financial London Stock Exchange (LSE)-listed companies for the period 2005 to 2007. Figure 1.1 exhibits the research framework which illustrates the key focus of the interested variables. The data of this research is an archival panel dataset which is drawn from hand-collected tax data from company annual reports, *Datastream*, *Hemscott Guru Database* and *Corporate Register*. Chapters 5, 6 and part of Chapter 7 provide detailed explanations of the applied research methodology.

1.5 Significance of the Research

This study has methodologically, theoretically and practically contributed to the body of the knowledge since this is the first research study of its kind that focuses on the U.K. setting. In addition, by examining the valuation consequences of tax planning, this study provides insights into the implications of tax planning on firm (equity) value. In summary, the contributions of this study are as follows:

1. Add to the knowledge about tax planning activities in U.K.
2. Contribute to taxation and corporate governance literature by highlighting implications of tax planning and corporate governance on shareholders' valuation.
3. Contribute to the taxation literature by measuring tax planning using components of tax saving.
4. Contribute to valuation literature by implementing valuation relevance approach.
5. Provide insights to authorities, practitioners and academics about the implications of disclosed tax and corporate governance information for shareholders.

Figure 1.1
Research Framework



1.6 Thesis Structure

Figure 1.2 presents a summary of the thesis structure. Overall, this thesis contains eight chapters of five parts: introduction; literature review; research design and methodology; data analysis and result; and conclusion.

1.6.1 Literature Review

Chapters 2, 3 and 4 respectively review previous literature related to tax planning activities, corporate governance, and various effects of tax planning and corporate governance on firm value. Chapter 2 begins with discussions of the definitions and theories of tax planning followed by explanations of the objectives and constraints of tax planning. The next section of the chapter highlights the motivations that drive tax planning activities, which include discussions on benefits and moderating factors of tax planning. The subsequent section of the chapter discusses tax planning opportunities derived from "loopholes" in tax law and firm-specific characteristics. This chapter then proceeds with discussions on measurements and approaches of tax planning.

Chapter 3 reviews previous corporate governance literature. It starts with discussions on the theories of corporate governance. These theories are inclusive of agency theory, transaction cost-economics approach, stakeholder theory and stewardship theory. As this study concentrates on the U.K. setting, the following section presents the corporate governance requirements in the U.K. Subsequently, the following section reviews literature related to external and internal corporate governance mechanisms in minimising the conflict between managers and the owners.

The third chapter of the literature review, Chapter 4, reviews the literature related to various effects of tax planning and corporate governance on firm value. The chapter begins with shareholders' perspective and firm value, which focuses on market value of equity in firm valuation, efficient market hypothesis (EMH) and

other measures of firm value. Further, the chapter discusses the relationship between tax planning and firm value, and between corporate governance and firm value. From the discussions of the above-mentioned sections, the next section of the chapter reviews the literature on the association between tax planning, corporate governance and firm value.

1.6.2 Research Design and Methodology

The research design and methodology part consists of two chapters. Chapter 5, a chapter on hypotheses development, with the understanding gained in Chapters 2, 3, and 4, discusses the hypotheses. Basically, the hypotheses are divided into two sections: firstly, related to the relationship between firm value and tax planning, and secondly, related to the moderating influence of corporate governance on that relationship.

The second chapter of this part, Chapter 6, explains and discusses the process of the data collection and variable definition and measurement. The chapter begins with sample selection and data sources. In the next section, the theoretical and estimation models are further explained so as to present the underlying assumptions of the estimation models. This is inclusive of the development process, concepts and empirical application.

1.6.3 Data Analysis and Result

Chapter 7 presents the details of the analyses and the results derived therefrom. The chapter also highlights the diagnostic tests which are conducted prior to the multivariate analyses. To test the robustness of the results, the chapter also discusses the sensitivity of the results upon several further tests, for example alternative measures of market value, deflator choice and fixed-effect estimation. In order to highlight the nature of the relationships of those interested variables over time, results based on annual regressions are also discussed.

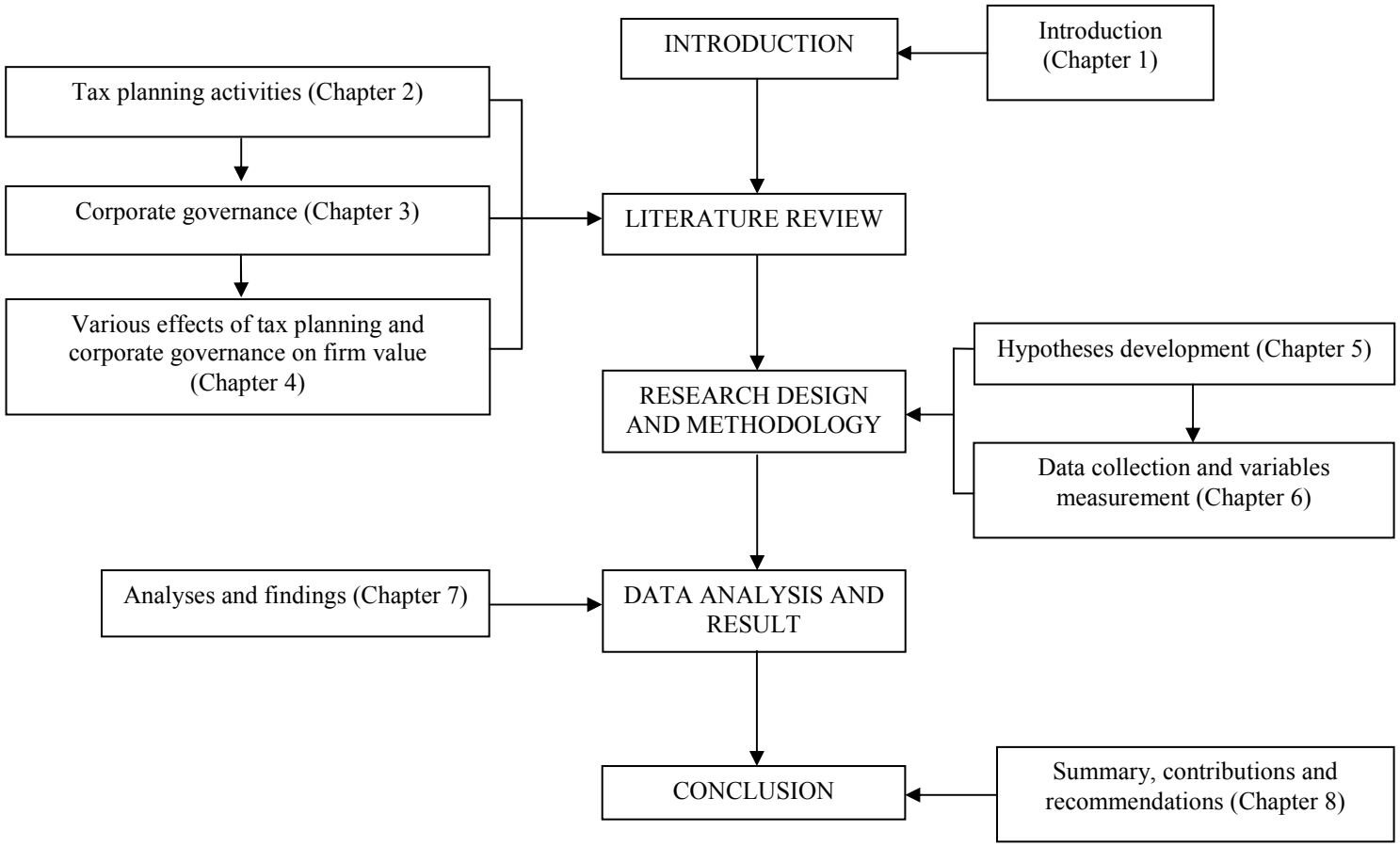
In summary, this study finds evidence of a negative relationship between firm value and tax planning both for persistent and non-persistent profit-making companies. A similar finding is also found with respect to the permanent differences component of tax saving of persistent profit-making companies. The other components (temporary differences, foreign tax rates differentials and tax losses), however, are not significantly (at five per cent level) related with firm valuation. In terms of corporate governance, this study finds only weak evidence to support arguments for a moderating effect of corporate governance practices on shareholders' tax planning valuation.

1.6.4 Conclusion of the Thesis

The final chapter of this thesis is Chapter 8. It provides the summary, contributions of this study and recommendations for future research. In addition, this chapter also discusses the limitations of the study that constrain the generalisation of the findings.

Figure 1.2

Thesis Structure



1.7 List of Presentations

Several working papers from this study have been presented in the following seminar and conferences:

1. "Tax Planning, Corporate Governance and Firm Value", *British Accounting Association Annual Conference 2010*, Cardiff, U.K., 30th March 2010 -1st April 2010.
2. "Tax Planning and Corporate Governance: Effects on Shareholders' Valuation", *2010 Global Conference on Business and Finance*, Hawaii, U.S., 3rd January 2010 - 6th January 2010.
3. "Tax Planning Activities: Effects of Shareholders' Valuation under Clean Surplus Accounting", *Tax Research Network Conference 2009*, Cardiff, U.K., 10th September 2009 – 11th September 2009.
4. "Tax Planning and Corporate Governance: Effects on Shareholders' Valuation", *Accounting Research Seminar*, University of Southampton, Southampton, U.K., 22nd April 2009.

1.8 Conclusions

This chapter highlights the general idea of this study. The first three sections respectively explain the background and motivations, research objectives and research questions. This is followed by a section giving an overview of the adopted research methodology. The significance of the research is further explained in the following section which briefly discusses the contributions of the research findings. In order to ease the understanding of the thesis arrangement, the thesis structure section explains the thesis outline. The next section lists the presentations of the research work of this thesis in a seminar and three conferences.

In the context of increased concern about levels of tax planning by several parties, including NGOs and governmental agencies, this study is conducted to

investigate how companies' shareholders view or value such activities. Although effective tax planning activities can increase shareholders' after–tax return, with aggressive and firm action by HMRC in limiting the activities among large companies, shareholders may value tax planning differently. Such valuation may also be caused by perceived moral hazard-related risk in which managers' interest in tax planning is doubted. Thus, this study is conducted to investigate the relationship between firm value and tax planning whilst simultaneously considering corporate governance as a moderating influence. The sample comprises non-financial LSE-listed companies for the period from 2005 until 2007. The data of this study is archival in nature and was collected from company annual reports, *Datastream*, *Hemscott Guru Database* and *Corporate Register*. By examining the valuation consequences of tax planning, this study provides insights into the implications of tax planning on firm (equity) value. In addition, as there is a lack of research that focuses on U.K. companies, the findings contribute to the taxation, corporate governance and valuation relevance literature. This study has also methodologically contributed to the taxation literature by measuring tax planning using the components of tax saving. The findings also highlight the implication of tax and corporate governance information for shareholders' valuation to the authorities, practitioners and academics. The thesis has been structured so as to include an introductory chapter, three chapters on literature review, two chapters on research design and methodology, a chapter on analysis and results, and a chapter on conclusions.

In summary, this study finds that firm value is adversely related to the level of corporate tax planning activities both for persistent and non-persistent profit-making companies. This relationship can be further explained as related to the permanent differences component of tax saving where firm value is reported as negatively related with permanent differences. In examining any moderating influence of corporate governance practices on the firm value-tax planning relationship, this study finds only weak evidence.

Chapter 2

Tax Planning Activities

This chapter aims to review the literature related to tax planning activities by companies. It begins with a review of the literature on the concept of tax planning, which includes definitions of tax planning and discussions to differentiate between tax avoidance and tax evasion. In the following sub-section, the literature on the theory and framework of tax planning is reviewed to discuss the underlying theories of tax planning research. Further analyses examine the practice of effective tax planning, including objectives, constraints and motivations of tax planning. Tax planning opportunities created by ambiguity of the tax laws and firms' specific characteristics are discussed in the following section. As there are several approaches of tax planning among companies, the following section of this chapter reviews the literature on applicable approaches of tax planning. Finally, the last section concludes this chapter.

2.1 Definitions and Theories of Tax Planning

2.1.1 Definitions of Tax Planning

Tax planning is defined as *"what all sensible people do in order to reduce their tax liabilities"* (Tiley, 2005: 94). This definition implies the entitlement of

taxpayers to minimise their tax liability as drawn from the legal facts of *IRC v Duke of Westminster (1936)* in which *"every man is entitled if he can to arrange his affairs so that the tax attaching under the appropriate Act is less than it otherwise would be. If he succeeds in ordering them so as to secure the result, then, however unappreciative the Commissioners of Inland Revenue or his fellow taxpayers may be of his ingenuity, he cannot be compelled to pay an increased tax"* (Tiley, 2005: 105). From this case, tax planning can be considered as legal steps taken by taxpayers so as to reduce tax liability in obtaining the tax saving benefits. However, tax planning activities can be ineffective if the tax authority successfully challenges the taxpayers over specific approaches of tax planning, for example "sham transactions", i.e. *"the acts done were intended to give the appearance of creating legal rights different from those which were actually created"* (Tiley, 2005: 107). This is drawn from the legal facts of *Furniss v Dawson (1984)* in which the authority was successful in challenging the taxpayer who conducted tax planning by way of artificial transactions and not related to commercial purpose (Tiley, 2005). However, the conclusion from *Furniss v Dawson (1984)* was restricted by the court's decision in *Craven v White (1988)* in which a tax planning activity cannot be disputed if it has been carried with other purpose than tax planning (Tiley, 2005).

In understanding the concept of tax planning activities, previous tax researchers consider tax avoidance and tax evasion as important components on the continuum of tax planning. Rego (2003), in research on tax avoidance activities of U.S. multinational corporations, explains the term "tax avoidance" as comprising any tax planning activities to legally reduce the income tax payment. In other words, the term "avoidance" refers to tax planning activities as intended or unintended consequences of the ambiguity of tax law provisions either from the policies or technical aspects. However, in examining the extent to which tax planning, in responding to variations in state tax policy, has affected U.S. state corporate income tax bases and revenues, Bruce, Deskins and Fox (2007) define tax planning as *"a broad set of tax avoidance and evasion schemes that affect only financial arrangements of firms"* (Bruce *et al.*, 2007: 226). The authors combine avoidance and evasion since tax planning strategies are often treated as legal activities but some strategies could be legally in the categories of

"uncertainty" or "ambiguity" although some strategies are obviously illegal, for example, underreporting taxable income or overstating tax deduction.

Therefore, in explaining tax planning activities, it is essential to differentiate the concepts of tax avoidance and tax evasion in order to avoid unintended consequences of tax planning, for example, penalty due to ignorance of a taxpayer about a legal aspect of tax planning. In addition, failure to differentiate avoidance and evasion could also lead to the discrediting of the tax planning process and, in a worse circumstance, it could cause serious legal consequences (Hoffman, 1961). As compared to tax avoidance, tax evasion is an illegal activity used to reduce the tax liability, for example, underreporting of income or, in an extreme manner, omitting the income in determining taxable income in tax assessment. Thus, it can be concluded that the basic terms to explain the difference are "legal" or "illegal". This is in line with Hoffman (1961) who explains the difference between tax avoidance and tax evasion by referring to the legal prerogative aspect in which the author highlights that *"tax avoidance is usually the ultimate goal to be achieved by tax planning. In this sense, the exercise of legal prerogatives may aid in the avoidance of taxes. Tax evasion, however, connotes the misrepresentation or omission of key financial information in an effort to evade the taxes that are largely enforceable. One is fraudulent and abhorrent to any decent and honest practitioner, and the other is completely acceptable"* (Hoffman, 1961: 274-275). However, Hoffman's (1961) view of tax avoidance as "completely acceptable" activity could be disputed as there is an ambiguous line to consider when differentiating "acceptable" and "unacceptable" avoidance. This issue, for many years, has been debated between authorities, practitioners and taxpayers because what is "acceptable" to one party may not be acceptable to the others (Bond, Gammie and Whiting, 2006; Self, 2007). Self (2007) explains "acceptable avoidance" as a tax planning activity that comprises two elements: firstly, the relationship of the tax planning with business transaction and secondly, the relationship of the tax planning with commercial purpose. On the other hand, without these elements, a tax avoidance activity is considered as "unacceptable". However, although an avoidance activity may have fulfilled these two conditions, it may still not be considered "acceptable" by the HMRC since the authority defines "acceptable" avoidance as only

comprising any action to reduce tax liability by "very clearly" just taking advantage of tax reliefs (Bond *et al.*, 2006). This indicates that those activities, from the HMRC's point of view, that are not "very clearly" just taking advantage of tax reliefs are considered "unacceptable" avoidance, which then, presumably, falls into the evasion category. Difficulties in differentiating "acceptable" and "unacceptable" avoidance are also admitted by Dave Hartnett, Deputy Chief Executive of HMRC, who states that, in general, "unacceptable" avoidance is said to be related to "aggression, artificial, and secrecy" and "things nobody wants in a tax system" (HMRC, 2008). These indications of "unacceptable" avoidance, especially "things nobody wants in a tax system", lead to open interpretation and consequently introduce ambiguous understanding of the difference between "acceptable" and "unacceptable" avoidance among the related parties. This conflict is also discussed in detail by Slemrod (2004). In reviewing the demand for tax evasion, the author admits that there is no obvious line between avoidance and evasion, which then leads to the interpretation of tax planning as a matter of creative compliance. Based on the arguments, the definition of tax avoidance as a "completely acceptable" activity (Hoffman, 1961) varies according to different parties.

Similarly to Hoffman (1961), Kirchler, Maciejovsky and Schneider (2003), in a study that investigates social representations of tax avoidance, tax evasion and tax flight, differentiate tax avoidance and tax evasion by means of the legal aspect in which the authors state that *"tax avoidance refers to an attempt to reduce tax payments by legal means, for instance by exploiting tax-loopholes, whereas tax evasion refers to an illegal reduction of tax payments, for instance by underreporting income or by stating higher deduction rates"* (Kirchler *et al.*, 2003: 536). From the results, the authors conclude that, in terms of perceptions, tax avoidance is an activity that uses cleverness and good ideas in legally saving on taxes while tax evasion is illegal, immoral, and interrelated with fraud, criminal prosecution, risk, tax-audit, and penalty. Hence, it can be summarised that tax avoidance is an interpretation of tax planning in which the activity is mainly connected to utilisations of tax law ambiguities with the main aim to effectively save tax.

Despite distinct definitions of avoidance and evasion, this study considers tax planning activities as comprising both avoidance and evasion. As this study concentrates on the relationship between firm value and tax planning, the legality aspect of avoidance and evasion is not empirically investigated. In addition, considering the difficulty in determining "acceptable avoidance", "unacceptable avoidance" and evasion using publicly available information (Slemrod and Yitzhaki, 2002; Kirchler *et al.*, 2003; Slemrod, 2004; Lymer and Oats, 2008), this study defines tax planning activities as embracing both avoidance and evasion.

Tax planning activities can also be considered in terms of "active" or "passive" tax planning. Active tax planning is relevant in the circumstance where a transaction is carried out with an intention to reduce the tax liability. On the other hand, passive tax planning is applicable in cases where the transactions are carried out without an initial intention to reduce the tax burden. For example, a taxpayer is considered to be involved in active tax planning if a purchase of a capital asset, which attracts capital allowances, has been done with the aim to reduce the taxable income. However, if the purchase decision did not consider the tax aspects, the taxpayer is characterised as performing passive tax planning. Similarly, in the cases of loss-making companies, there are still tax planning-related decisions to be made. Although it could be argued that the relationship between tax charge and accounting profit (loss) differs between profit-making and loss-making companies, a claim to offset the losses must be made and thus it does require action on the part of the firm.

Based on the above discussions, tax planning could be interpreted as an activity that involves avoidance and evasion. Although avoidance is always referred to as a legal activity, a further distinction exists, as it is argued by tax authorities, between acceptable and unacceptable avoidance depending on different interpretations of acceptable and unacceptable avoidance among various tax planning-related parties. As explained above, tax planning could also be classified in relation to "active" and "passive" tax planning depending on the taxpayer's tax planning intention in conducting a transaction. In summary, tax planning interpretation can be considered to be an ongoing issue and of interest

to researchers, authorities, practitioners and taxpayers. Corporate tax evasion and tax avoidance are also of crucial concern to researchers and authorities since they relate to public policy in which both activities may distort tax burden distributions and in terms of economic perspective, they could distort resource allocations (Slemrod, 2004). As a consequence, as explained by Slemrod (2004), a society would be most affected and there would be no development if all corporate taxpayers were equally successful in reducing their tax liability by the same percentage. Therefore, valuations and considerations on tax planning differ among tax planning-parties depending on their perceptions of the nature of the activities and the potential tax planning benefits.

2.1.2 Theories of Tax Planning

Hoffman (1961), in elaborating the theory of tax planning activities, introduces principles and concepts of tax planning that are mostly applicable to tax practitioners. However, these principles and concepts are considered below because taxpayers are likely to conduct tax planning based on the advice of the practitioners. The author highlights four important points of tax planning. Firstly, in the case of properly handled, tax planning is not a simple process. Secondly, much gain will be obtained if the process of tax planning is conducted as a formalised procedure. Thirdly, many tax planners do not practise tax planning to the greatest possible advantage and finally, tax planning could benefit many taxpayers but few are aware of its advantages.

Further, the author highlights that it is essential for tax planners to note that tax planning could not be sustained for a long-term period unless the tax planning activities are "flexible" in the sense of a continuity of the strategies. This is especially applicable for the cases of tax planning strategies that rely on tax law ambiguities, since the law is revised on an ongoing basis. Therefore, tax planning strategies should be time-oriented and consistent in the sense that *"consistency requires that the past limit the present and the future but the present must be further circumscribed in the light of the taxpayer's future requirements"* (Hoffman, 1961: 280). The "flexibility" view is aligned with the

findings by Dyreng, Hanlon and Maydew (2008) in investigating firms' ability to avoid tax over a long period of time using a dataset of 2,077 U.S. firms for the period from 1995 until 2004. The researchers find a significant fraction of firms that could avoid corporate taxes for the 10-year period. This finding is explained as long-term tax avoidance which might be triggered by management actions in avoiding tax and it may be caused by inherent variations in the characteristics of groups of firms, for example, different characteristics in different industries. This shows that there is a possibility for firms to become involved in tax planning for a long period of time but, as claimed by Hoffman (1961), it may be limited if the motivation for such activities is based on tax law ambiguities.

In addition to the above-mentioned principles, Scholes-Wolfson tax planning framework suggests three important principles in tax planning: a multilateral approach, i.e. all contracting parties, the importance of hidden taxes, i.e. all taxes, and the importance of non-tax costs, i.e. all costs. The themes are further detailed as follows: *"all contracting parties must be taken into account in tax planning; importance of hidden taxes – all taxes must be taken into account; and importance of non-tax costs – all costs of business must be considered, not just tax costs"* (Scholes and Wolfson, 1992: 3). Shackelford and Shevlin (2001), in tracing the development of income tax research in accounting, highlight that the Scholes-Wolfson framework adopts a positive approach in explaining the role of taxes in organizations.

Scholes and Wolfson (1992) also provide examples of the three themes: "all parties" could refer to both employer's and employees' taxes in arranging the compensation; "all taxes" could refer to taxes comprehensive of explicit taxes (the tax paid to the authority) and implicit taxes (tax-induced reductions in pre-tax rates of return); and, finally, "all costs" could refer to management incentives and transaction costs, and the trade-offs between corporate financial accounting aims and tax aims.

In empirical tax researches, the Scholes-Wolfson framework is widely accepted and, up to the year of the study, Shackelford and Shevlin (2001) find that no research paper challenges the validity of the framework. However, Shackelford

and Shevlin (2001) highlight a shortcoming of the framework from a research perspective. This is due to the difficulty in quantifying non-tax costs which leads to the possibility of portraying any result as consistent with the framework.

2.2 Objectives and Constraints of Tax Planning

2.2.1 Objectives of Tax Planning

Based on the above-mentioned definition, an early definition of tax planning relates it to the basic objective of minimising tax liability. This is explained clearly by Hoffman (1961) where tax planning is referred to as *"taxpayer's capacity to arrange his financial activities in such a manner as to suffer a minimum expenditure for taxes"* (Hoffman, 1961: 274). This implies taxpayers' ability to pursue the tax minimisation objective in tax planning.

However, not all tax planning activities necessarily decrease the tax liability to one's desired minimum level (Hoffman, 1961) since there is no certainty in tax planning due to the possibility of non-tax costs (see section 2.2.2 below) in limiting the successfulness of the tax planning activities. It is also important to note that the optimal aim of tax planning should be to maximise after-tax returns since the tax minimisation objective will contribute to non-tax costs (Scholes and Wolfson, 1992). In other words, tax planning activities are about exercising skills and knowledge to reduce the tax burden whilst simultaneously ensuring an increment of after-tax returns. Such tax planning activities are referred to as effective tax planning in which the role of taxes and other contracting costs underlies the decision rule of maximising after-tax returns or optimising tax liability (Scholes and Wolfson, 1992). Equivalently, the objective can be stated as maximising the after-tax net present value of a transaction (Jones and Rhoades-Catanach, 2005).

2.2.2 Constraints of Tax Planning

Companies might have to face some constraints or adverse implications of tax planning in achieving the above-mentioned tax objectives. For that reason, Scholes and Wolfson (1992) consider optimal tax planning as an activity that takes into account tax planning implications in terms of "all taxes", "all costs" and "all parties". These constraints and implications can be explained by referring to the costs and non-tax costs of tax planning. Previous research has emphasised the importance of costs for tax planning in several distinct matters, for example, the decision of tax planning, role of auditors and effective tax planning (see Tran-Nam, Evans, Walpole and Ritchie, 2000; Slemrod, 2001; Rego, 2003; Slemrod, 2004; Maydew and Shackelford, 2007). As the process of tax planning and tax minimisation can be expensive, it is essential to consider these costs before undertaking tax planning activity (Slemrod, 2004). The circumstances would be worse if the government subsequently increases corporate tax rates in response to the lower tax revenues (Slemrod, 2004). Hence, the activity will be pursued only if the costs are seemingly lower than the expected tax reduction (Tran-Nam *et al.*, 2000).

The costs of tax planning might be associated with two interrelated costs: the costs that arise from existing tax planning activities, and future costs from the prospective of additional tax planning activities in which the latter is related to the costs that arise from the activity of seeking out additional tax planning methods (Curry, Hill and Parisi, 2007). In short, the costs of tax planning that are incurred by companies could arise from both existing and future tax planning strategies. Further elaboration on the costs of tax planning in this section is based on two types of costs: direct and indirect costs.

2.2.2.1 Direct Costs

Direct costs are the cash outflows that have to be incurred directly by the tax planners in realising the objective of tax planning. These costs are inclusive of costs of tax and costs of legal consultancy (Schreiber and Fuehrich, 2007).

Companies incur the said legal cost as a part of their compliance costs in ensuring the attainment of the tax planning target. This is due to legislative and judicial restrictions in tax planning as the tax authority and the courts might challenge the tax planning strategies using legislative and judicial doctrines (Jones and Rhoades-Catanach, 2005). In addition to the above-mentioned costs, Slemrod and Venkatesh (2002) explain tax planning costs as inclusive of internal pre-filing costs, which includes soliciting tax guidance and information, and maintaining tax-related records. These legal costs are important in tax planning decisions as they could economically reduce the value of the benefits of the tax planning activities.

Legal costs of tax planning could also be considered as costs related to outside assistance, for example, costs associated with the tax-related fees paid to the attorneys, accountants and other relevant parties (Mills *et al.*, 1998). In addition to the outside assistance costs, Mills *et al.* (1998), in a study that investigates investments in tax planning, include in-house costs as additional expenses in conducting tax planning. The authors describe in-house costs as the cost of the firm's tax department salaries inclusive of fringe benefits.

2.2.2.2 Indirect Costs

Indirect costs include, for example, conflicts with the financial reporting objective, loss of voting control and reduced access to capital markets due to restructuring activity in tax planning. Previous literature has widely discussed the issue of conflict between financial reporting and tax planning (for example Scholes, Wilson and Wolfson, 1990; Cloyd, Pratt and Stock, 1996; Shackelford and Shevlin, 2001; Hunton, Libby and Mazza, 2006). The conflict exists due to reputation which reflects managers' compensation, implicit costs and political costs. However, it is important to note that the effect of tax planning and financial reporting is not only of a one-way nature but could work both ways insofar as it is not only tax planning that could affect financial accounting choices but financial accounting considerations could also affect the tax planning (Shackelford and Shevlin, 2001). This conflict is considered by Scholes and

Wolfson (1992) as a "conflict between financial reporting and tax planning consideration" which basically deals with the decision to pursue either high accounting income or lower taxable income. From the capital market's point of view, the conflict, which usually exists through the tax planning approach of deferring or lowering the net reported income, would result in a negative perception among shareholders as it reveals a bad reputation of the management of a company (Scholes and Wolfson, 1992; Tzovas, 2006). In fact, Tzovas (2006), under the assumption that a decrease in tax liability usually entails a decrease in reported income, finds that firms might pursue after-tax reporting profit-related objectives rather than tax minimisation objectives since the reporting figures could influence firms' stakeholders' perception of reputation for lending decisions and firm valuation.

In line with reputation, managers' compensation could suffer in the case of performance-based remuneration in which the lower the reporting income, the lower the remuneration. This could be regarded as tax disadvantageous for the management of companies that rely on performance in rewarding the employees, especially in granting executive options (Stapledon, 2004). In addition, Klassen, Lang and Wolfson (1993) argue that companies might be restrained in pursuing tax planning strategy via geographical income-shifting because such activity might affect internal performance assessment and managerial incentives. Thus, this indicates that performance-based executive compensation considerations or consequences could be one of the indirect costs of the tax planning.

In addition to reputation and executive compensation, implicit tax and political costs are other indirect costs that are important considerations in tax planning. Scholes and Wolfson (1992) highlight that companies which pay lower or no explicit tax may bear higher political costs or implicit taxes of which the former includes additional levies or regulations and the latter is the cost indirectly incurred in the form of a lower return on tax-favoured investment. Political cost is also related to government scrutiny and wealth transfer (Zimmerman, 1983).

Other indirect costs that might need to be considered by the tax planners are loss of voting control and reduced access to capital markets. These costs interfere in

tax planning via the restructuring of the organisational structure in which loss of voting control refers to owners' limited control over managers' actions while access to capital market is related to access to the market for debts and equity (Scholes and Wolfson, 1992). In other words, companies might engage in tax planning by restructuring the organisation but they may suffer from negative capital market consequences; for example, some companies may plan their tax through restructuring the organisation by reallocating local subsidiaries to foreign subsidiaries but the foreign countries may have a set of regulations that restricts the voting control and access to capital markets as compared to the former country.

2.3 Motivations of Tax Planning

Tax planning is mainly motivated by the expected benefits sought by taxpayers. However, different decision-makers may value the benefits differently due to different levels of tax planning aggressiveness, which may depend on the decision-makers' attitude; for example, are they risk-averse or risk-takers? In the case of the risk-averse, decision-makers are likely to make decisions that entail less risk but a low return; in contrast, risk-takers would prefer a decision that resulted in high returns even though the risks related to the decisions are high. These attitudes could be further explained in relation to expected utility theory and prospect theory. Expected utility theory explains taxpayers' decisions under uncertainty with expectation of receiving maximum benefits in considering the trade-offs between expected return (tax saving) and the risks from decisions made, while prospect theory explains taxpayers' decisions under safe and assured conditions in which the taxpayers prefer a tax planning strategy that entails less risk although the tax saving is lower (King and Sheffrin, 2002). Risk-takers, in line with expected utility theory, would engage in tax planning using strategies that produce maximum tax saving, but in the case of the risk-averse, according to prospect theory, the taxpayer will prefer a strategy that involves less risk and only deals with standard deductions (King and Sheffrin, 2002).

The discussion on the factors that could motivate a tax planning decision is incomplete without clarifications of the moderating influences of tax planning. In a tax planning decision process, moderating factors are the factors that indirectly motivate or inhibit the taxpayers in conducting a tax planning activity. Corporate governance and stakeholders' opinion are the moderating factors discussed in this section.

2.3.1 Benefits of Tax Planning

Companies involve themselves in tax planning because of the primary benefit derived thereof, that is an increase in after-tax returns. As discussed in the section on definitions and theories of tax planning, it is important to note that after-tax returns could be negatively affected by tax minimisation although tax minimisation could be claimed as a benefit of tax planning. This is due to the possibility of a tax minimisation strategy to bring in significant costs of a non-tax dimension (see section 2.2.2 on constraints of tax planning above). Therefore, the increment of after-tax returns is the main aim of effective tax planning rather than tax minimisation (Scholes and Wolfson, 1992). The Scholes-Wolfson framework further claims that, due to its potential negative effect on after-tax returns, tax minimisation is not an optimum benefit in tax planning; for example, in order to maximise the tax, one may simply not invest in profitable ventures. In addition, tax minimisation benefit may result in other non-tax costs, for example, lower reported income (Shackelford and Shevlin, 2001).

An empirical test of the impact of tax planning strategies on after-tax investment returns by Chincarini and Kim (2001) finds evidence on the increment of the tax planning effect on after-tax returns. The authors compute after-tax price returns by dividing after-tax final value of the portfolio with the initial value of the portfolio. Using a portfolio comparisons approach with a dataset from the Vanguard Index 500 Fund, which exclusively covers investors in August 1976 who held the investment until the end of 1999, the authors find higher after-tax

returns for the "tax-smart investors" as compared to "naïve investors".[2] The authors finally conclude that, by cleverly planning the investments (considering the tax implications of an investment), the after-tax returns could be increased by the index investors. In other words, the results indicate that good tax planning could lead to greater after-tax returns.

Besides an increase in after-tax returns, tax planning also benefits the companies by way of cash inflows (Jones and Rhoades-Catanach, 2005). As compared to after-tax returns, increased cash inflows benefit the taxpayers by way of increasing cash available to the companies with considerations only on the tax paid rather than tax expense. Tran-Nam *et al.* (2000) explain that cash flow benefit can accrue in two circumstances. The first is when no tax is charged on income; the second is in the situation of lawfully delaying the remittance of tax revenue to the authority, particularly the tax that is collected on behalf of the government. Based on the above, the cash inflow benefit of taxation could be related to timing or deferral tax planning strategy. In addition, increased cash flow benefit is also available by way of lower tax rates between related companies. This is applicable to companies that perform tax planning through transfer pricing as highlighted by Martinson, Englebrecht and Mitchell (1999) whereby companies would increase their after-tax cash flow if they involve in a high transfer price to a foreign division or subsidiary that suffers high tax rates. Such artificial determination of transfer pricing is illegal and therefore constitutes evasion. Thus, if the companies are viewed as a group, the group's after-tax cash will consequently be significantly increased.

Further, in light of the Scholes-Wolfson framework, Shackelford and Shevlin (2001) highlight that taxes together with all parties and all costs may benefit the tax planning-related parties, which include shareholders, management and companies, through a tax management structure that achieves organisational goals, for example, profit or wealth maximisation. Tax management structure

[2] Tax-smart investors are referred to by the authors as tax-aware investors while naïve investors are non-tax-aware investors. The awareness is measured based on the investors' decision in keeping the realised investment capital gains below a threshold level to reduce immediate tax payments. Taxpayers who are tax-aware are regarded as those who manage to maintain their gains under a certain level so as to suffer minimum tax payments; otherwise, the investors are considered as non-tax-aware investors.

could be referred to as an arrangement of a tax planning management at decision-making level. This structure, with the assumptions that there is no agency cost and that all themes (all taxes, all parties and all costs) can be identified and controlled, is an outcome of effective tax planning since, in making a comprehensive (considering the three themes) tax planning decision, the management of a company has to arrange a structure that considers the effects of tax planning decisions on all of the themes. Thus, in addition to increasing after-tax returns and cash inflows, better tax management structures could also benefit not only the companies that engage in effective tax planning, but also the management and the shareholders in the sense of reducing agency conflict whereby the shareholders could rely on the management's decision in conducting the tax planning activities while increasing the shareholders' wealth.

2.3.2 Moderating Factors

Moderating factors of tax planning, for example corporate governance and stakeholders' opinion, are considered in this section as they could indirectly motivate tax planning decisions due to their ability to influence the expected magnitude of tax planning benefits. For example, the managements of companies with good corporate governance would consider tax planning decisions that could increase the firm value which would directly increase shareholders' wealth, instead of pursuing managers' wealth interests in the cases of companies with poor corporate governance practice. Similarly, stakeholders' opinion could influence companies' tax planning decisions in the sense of tax planning valuation and approval consideration which depend on the benefits of tax planning activities from the stakeholders' point of view.

2.3.2.1 Corporate Governance

Shareholders, due to information asymmetry, rely on corporate governance mechanisms in ensuring that managements' actions are in line with their wealth objective. In this context, corporate governance and tax planning are interrelated specifically in explaining economic magnitude between the owners and

managers. Therefore, from an economic point of view, tax and corporate governance are interacting in the sense of managerial opportunism in which a conflict of interest explains managers' opportunity to pursue self-interest in tax planning since tax planning, if carried out with intention to avoid the tax authority's detection, involves complexity and obfuscation (Desai and Dharmapala, 2008). As the details of tax planning-related transactions or activity are kept secret by the companies to prevent detection, Desai and Dharmapala (2008) highlight managers' opportunities to involve themselves in activities that are harmful to shareholders. This, as in the above discussion, in turn creates information asymmetry between shareholders and managers which consequently causes agency problems. Therefore, as the shareholders refer to corporate governance mechanisms in ensuring that the tax planning decisions are consistent with their interests, corporate governance could be claimed as a moderating factor in tax planning activities.

In addition to economic perspective, shareholders also consider corporate governance in tax planning from a strategic management perspective. A company's strategic decisions rely on corporate governance conduct within the company itself (see Hoskisson and Turk, 1990; Bushman and Smith, 2001). Tax decisions, as argued by Glaister and Hughes (2008), usually follow in the wake of a strategic decision. Therefore, good corporate governance is likely to be an important consideration for shareholders in valuing management's strategic tax planning decision-making as the said tax decision normally includes tax planning strategies that attract management's serious consideration of the risks of tax planning. The risks entailed in tax planning are increasing U.K. boards' concern since tax planning activities require serious management time, serious money and serious reputational risk (Hartnett, 2008). In fact, some companies are seen to be risk-averse in tax planning in order to avoid a high-risk classification by the tax authority (KPMG, 2004). Thus, boards' duties, among others, include tax risk management, which is about managing tax-related activity under uncertainty, and such a duty is now shifting to responsibility for tax governance due to a rising concern about social responsibility among stakeholders (Erle, 2008). Therefore, as the boards are responsible for companies' tax matters, shareholders rely on

good corporate governance to ensure that the tax planning decisions are made with appropriate consideration of the risks.

The importance of corporate governance consideration in valuing tax planning decisions is further highlighted by Owens (2008) in stressing two issues arising from an intersection between tax and corporate governance: a set of issues on conflict of interest and the issues about ensuring the transparency and quality of management decisions. In addition to the board, the intersection could also occur due to the effect of individual managers. Dyreng, Hanlon and Maydew (2009), in investigating the effect of individual executives on a firm's tax avoidance activities, find significant involvement of individual executives in determining the firm's level of tax avoidance. The authors conduct the analysis using a dataset from a sample of 899 executives for a period from 1992 to 2006. The results suggest that the relationship between tax planning and corporate governance is not only a board-level matter but that the link could also be scrutinised in the sense of individual executive effects. Specifically, the findings of the research indicate a significant relationship between Generally Accepted Accounting Principles (GAAP) effective tax rates (ETR) and cash ETR and the executives who were CEOs in the last year of their careers, chief financial officers (CFOs) and other executives (non-CEO and non-CFO) covered by ExecuComp.

Previous empirical research has widely discussed the interactions between taxation and corporate governance (Erickson, Hanlon and Maydew, 2004; Chan, Lo and Mo, 2006; Desai and Dharmapala, 2006; Brown, Liang and Weisbenner, 2007; Desai, Dharmapala and Fung, 2007a; Desai, Dyck and Zingales, 2007b; Desai and Dharmapala, 2008; Desai and Dharmapala, 2009; Hanlon and Slemrod, 2009). As discussed above, corporate governance could be a moderating factor in tax planning activities since the activities require commitments from managers who have had access to the information about the company. Due to the information asymmetry, there is a possibility for managers to benefit at the expense of the shareholders. This is in line with the findings of the research by Erickson *et al.* (2004). In this research, which investigates the evidence of taxes paid on allegedly fraudulent earnings, the researchers find that

managers did get involved in tax overpayment of the overstated earnings in order to reduce the possibilities of being discovered by outsiders. In other words, managers would engage in tax overpayment with an intention of concealing from investors their fraudulent earnings overstatement activities. Thus, as far as information asymmetry is concerned, corporate governance is an important element to be considered in understanding the tax planning arrangements of a company. This is due to shareholders' limited access to companies' tax planning information since tax planning information is normally kept confidential by the management for commercial reasons and to prevent detection by tax authorities (Desai and Dharmapala, 2008).

In explaining the relationship between the tax system and corporate governance arrangements, Desai and Dharmapala (2008) draw attention to the interactions between tax avoidance decisions and managerial opportunism as the foundation of agency perspective in tax avoidance. The authors emphasise that the relationship between corporate governance and taxation could exist in three settings that are characteristic of a tax system, the nature of the corporate governance environment and managers' potential to capture a share of tax avoidance benefits. In other words, corporate governance and tax planning could interact in the sense of the influence of a tax system on managerial behaviour, the influence of corporate governance structure on the tax arrangements of a company, and the benefits derived by the managers from tax planning activities.
It is also important to note that, from an agency perspective, the direction of the relationship between tax planning and corporate governance might happen in both ways in which *"the working of corporate tax may well influence, and be influenced by the relationship between managers and outside shareholders"* (Desai *et al.*, 2007a: 350). In addition to the outside shareholders, the association between taxation and ownership structure is also applicable in the case of executive stock ownership, as managers with stock ownership are presumed to act in favour of shareholders' interests due to the similar wealth objectives of the managers and shareholders (Jensen and Meckling, 1976) and hence such managers will make tax planning decisions that will increase the wealth of shareholders, which also directly increases the managers' wealth. Brown *et al.* (2007) provide evidence of the positive relationship between top executive stock

ownership with the dividend payout during a dividend tax cut year. This shows that ownership structure would correlate with the corporate payout policy where the authors document that the higher the ownership, the higher the amount of the dividend during the dividend tax cut year. Further, in terms of family ownership, Chen, Chen, Cheng and Shevlin (2010), in investigating the tax aggressiveness of family firms as compared to non-family firms using a panel dataset of 1,003 U.S. firms for a period from 1996 until 2000, find that family firms demonstrate a lower level of tax aggressiveness as compared to the other firms in which the tax aggressiveness is measured by four difference measures consisting of ETR, cash ETR, book-tax difference and residual book-tax difference (following firm-fixed effect regression). These results indicate the concern over non-tax costs by the family owners in their tax planning activities. The said non-tax costs are highlighted as consisting of the potential price discount (share price reduction) from non-family shareholders (minority shareholders), a potential of penalty imposed by the tax authority and a potential of impairment of family reputation. These considerations of tax planning constrain the family firms' tax planning activities in terms of the perception of other non-family shareholders, detection by the tax authority and damage to reputation resulting from the tax audit by the tax authority.

In light of the above literature, it is clear that agency perspective is strongly related to the conflict of wealth maximisation objectives between managers and shareholders in which consideration of managers' wealth is usually seen as a managerial incentive. Regarding tax avoidance and managerial incentives, Desai and Dharmapala (2006), using a large sample of U.S. data for a period of 1993 until 2001, examine the link between corporate tax avoidance and the growth of "high-powered" incentives for managers. The findings demonstrate a negative association between managers' incentive compensation and tax avoidance where the higher the incentive compensation, the lower the tax avoidance. These empirical findings, with the assumption that tax avoidance increases firm value, contradict the theory as the increment of managers' incentive is found not to align with the shareholder-managers' interests. This is explained by the researchers as being due to the "undersheltering" phenomenon which relates to shareholders' perception that tax avoidance increases opportunities for managers

to pursue their interests and thus influences the managers to reduce tax planning activities. In addition, the research also documents the role of corporate governance in the above-mentioned negative association where the association is mostly driven by the poorly-governed firms. Thus, as the managerial opportunism is higher in the weak corporate governance companies, the tax planning activities are also found to be higher (i.e. in relation to lower ratio of value of stock option grants to total compensation for top-five executives). Therefore, the authors conclude that the corporate governance characteristics of a company appear to mediate the association between compensation and tax avoidance by way of higher managers' opportunism in weak corporate governance companies and, hence, high compensation to control the manager could not positively contribute to shareholders' interests in tax planning decisions.

The association of corporate governance and taxation at the national level can also be exhibited by way of the increment of tax revenue in response to the increment of tax rates. By using private benefits, which are measured as control premium in negotiated control block sales, as an indicator of worse corporate governance, Desai *et al.* (2007b), in analysing the sensitivity of corporate tax revenues to tax rates with quality of corporate governance systems, find robust negative interaction between tax rates and the measure of private benefits.[3] The authors interpret the findings as a lower sensitivity of tax revenues to a tax rate increment among countries that have worse corporate governance. The result also shows that, with strong corporate governance, the increment of tax rates will increase the tax revenue in an increasing rate.

The function of corporate governance as a mediating factor in tax planning could also be viewed by way of investors' responses towards a tax planning activity. In answering the research question of how investors value managerial actions designed solely to minimise corporate tax obligation, Desai and Dharmapala

[3] The results of the research are based on 36 countries: Argentina, Australia, Austria, Belgium, Canada, Colombia, Denmark, Egypt, Finland, France, Germany, Greece, India, Indonesia, Ireland, Israel, Italy, Japan, Korea, Malaysia, Netherlands, Norway, Pakistan, Peru, Portugal, South Africa, Spain, Sri Lanka, Sweden, Switzerland, Thailand, Turkey, U.K., U.S., Venezuela and Zimbabwe.

(2009) investigate the relationship between the effect of tax avoidance activity and the firm value. In the research, tax avoidance is measured by book-tax gap while Tobin's Q is the proxy for the firm value. By using a dataset of U.S. firms for a sample period of 1993 until 2001, the authors find a significant positive effect of tax avoidance on firm value for well-governed firms. The firm value-tax planning relationship is found to be pronounced only with the presence of the corporate governance consideration. Specifically, the authors find a significant positive association between book-tax gap and firm value from a good governance firms-years. The measure of corporate governance is based on a fraction of a company's shares owned by institutional investors in which ratios of more than 60 per cent are indicative of stronger governance institutions. The institutional investors are chosen as a proxy of corporate governance mechanism due to the presumption of positive association between the institutional investors and a degree of scrutiny of a managerial action. In addition, the institutional investors are also presumed by the authors to have greater incentives and capacity for monitoring the managers. The results of the analyses are interpreted by the authors as a contribution of corporate governance in explaining the tax avoidance undertaking by companies in which the better the corporate governance, the larger the effect of tax avoidance on firm valuation. Based on this research, corporate governance characteristics could be concluded as having an important role in interpreting the association between tax planning activities and firm value.

Similarly, Hanlon and Slemrod (2009) also document a significant role of corporate governance in tax planning activities but, instead of using Tobin's Q, the authors utilise stock price as the proxy of market valuation. The researchers study markets' responses to tax planning activities through an event study investigating market evaluation of news about corporate tax aggressiveness. The authors examine stock price reaction to the tax aggressiveness news on three consecutive days: the day immediately before the announcement, the day of the announcement and the day immediately after the announcement. The findings of the research indicate that corporate governance factors influence the association between the stock price and the news about tax shelters in an unexpected direction. The researchers find a robust negative association between provisions

that are not related to management entrenchment and the share price during the event dates. They interpret the result as indirect negative effects of corporate governance on the relationship between firm value and tax shelter news.

In summary, corporate governance can be seen as a moderating factor in tax planning since it can directly or indirectly affect tax planning activities. This mediating role is performed through several means including ownership structure and managers' compensation. It is important to note that the foundation of corporate governance intervention is largely interrelated with the agency problem and, as far as the agency problem is concerned, a conflict of interests will be an ongoing shareholders' problem since a separation between ownership and control is a key characteristic of companies' management. Thus, it could be presumed that the direction of the relationship between corporate governance and tax planning might occur in either negative or positive ways depending on the magnitude, interests and objectives of the managers and the shareholders.

2.3.2.2 Stakeholders' Opinion

Stakeholders' opinion or perspective is an important consideration in tax planning activities since the opinion is a crucial element in valuation and approval considerations. This is aligned with the concept of "all parties" introduced by the Scholes-Wolfson framework in which it is essential for managers to be aware of the influence of tax rules changes on the behaviour of a company's stakeholders, who may consist of customers, employees, suppliers and competitors (Scholes, Wolfson, Erickson, Maydew and Shevlin, 2005). In considering stakeholders' opinions in tax planning activities, it is important to note that stakeholders' opinions may vary since different stakeholders may have different interests and information. In a research survey that investigates the factors that influence the accounting policy decisions of the 200 largest firms operating in Greece, Tzovas (2006) finds that firms' stakeholders' perceptions and decision-making could be influenced by accounting figures. Thus, it can be concluded that it is essential for the statutory auditor to provide assurance on the non-existence of financial statement fraud in a company and the going-concern

status to different stakeholders of a company (Van Tendeloo, 2007). This is important to suit the different needs and interests of stakeholders who, with sufficient information, could effectively value the tax planning activities conducted by the companies. Therefore, different stakeholders, who are equipped with different relevant information, could assess whether the tax planning activities might meet their expectations, needs and interests.

Hence, with such assurance, stakeholders' opinion could be an effective moderating factor of tax planning activities for companies that emphasise a long-term competitive advantage. This is applicable to all types of companies regardless of whether the companies are domestic-only or multinationally operated. Christensen and Murphy (2004), in discussing corporate social responsibility in corporate tax avoidance, suggest that clear corporate social responsibility standards in taxation should be adopted by multinational companies. The said standards are inclusive of the standards that require the company to publish all necessary information and constrain the company from the use of "profits-laundering vehicles" that have no significant economic objectives for relevant stakeholders. The said stakeholders may consist of government, shareholders, employees and the general public.

Overall, it can be concluded that stakeholders' opinions are likely to mediate tax planning activities through their influence on tax planning valuation and needs. Thus, it is important for companies to seriously pay attention to the accuracy of the information available to stakeholders where tax planning information is transparent to the stakeholders through financial reporting statements, as found by Van Tendeloo (2007) in examining the association of audit quality and tax-induced earnings using U.K. private firms for a sample period from 1998 until 2002. The author highlights that, as compared to other motivated forms of earnings management, tax-induced earnings management, defined as downward earnings management to reduce tax liability, for example, by manipulating accruals to increase tax allowable expenses, could be argued as more easily detected and scrutinised by stakeholders through the company's financial report. In addition, stakeholders' opinion could also mediate the tax planning activities indirectly since stakeholders' opinion is important in estimating taxes in which

due to political objective, the government considers the pressures exerted by stakeholders when it determines tax-related rules and regulations (Klumpes, 2003). This in turn reflects tax planning decisions by management in the form of a response to the stakeholder-related tax rules and regulations whereby managers plan the tax in responding to stakeholders' needs which are considered by the government in setting up the rules and regulations. In summary, the above discussions stress the influence of stakeholders' opinion on tax planning activities by way of tax planning valuation, approval considerations and stakeholders' needs.

2.4 Tax Planning Opportunity

Tax planning opportunity is discussed in this section with reference to the contribution of "loopholes" in tax law and firms' specific characteristics. "Loopholes" in tax law creates a tax planning opportunity as it relates to ambiguity in tax law and thus, as highlighted by Slemrod (2004), creates creative compliance by taxpayers. Similarly, companies with certain specific characteristics, for example multinational companies (MNC), would have a better opportunity to plan their tax effectively as compared to other companies.

2.4.1 "Loopholes" in Tax Law

The existence of "loopholes" in tax law could trigger the taxpayers to avoid tax without going against the law. In a study that examines a feature of a budget process, Saxton (1999) defines a "loophole" in tax terminology as *"a technicality making it possible to circumvent the law's intent without violating the letter of the law"* (Saxton, 1999: 9). In other words, "loopholes" in tax law could provide an opportunity for taxpayers to technically plan their tax without violating the rules.

In the context of effective tax planning, due to detailed elaboration in response to complex problems and circumstances among different groups of taxpayers,

Hoffman (1961) claims the existence of "loopholes" as a reason for more effective tax planning activities. Thus, it is likely that "loopholes" in tax law have actually emerged from the complexity of the law itself in which the more complex the law, the more "loopholes" will be available. This would further encourage tax planning activity, as highlighted by Slemrod (2004) that the complexity of the tax law, which leads to an open interpretation, could facilitate creative compliance which will then assist ethical rationalisations.

The effectiveness of tax planning strategies, based on the opportunity available from "loopholes" in tax law, is assured as long as it is not discovered by the authority. The tax planning opportunity that is available from the complexity of the law is of concern to the authority since the main purpose of the tax law is to ensure that tax functions as a social instrument (Aharony and Geva, 2003), which is related to the ethical or morality functions of taxpayers. This is stressed by Aharony and Geva (2003) who argue that, from a Kantian ethics perspective, efforts to exploit tax "loopholes" are considered to be reliant on the expectation that the tax authority will not discover the avoidance opportunity. However, a tax planner should be aware of the temporary nature of "loopholes" since the tax authority may quickly stop the opportunity for tax planning using "loopholes" in tax law by issuing supplementary government legislation or its own rulings (Hoffman, 1961). For example, in Australia, the tax authority has designed specific provisions, for instance restrictions on deductible operating losses and bad debts, which are carried out simultaneously with general anti-avoidance measures purposely to plug specific "loopholes" (Porcano and Tran, 1998). Similarly in the U.K., for example, in an attempt to require more information from taxpayers, the authority issues notification requirements to enforce additional rules and regulations to the existing law (Tooma, 2008). On the other hand, in view of the authority's actions to overcome the unintended consequences of the law with additional rules or provisions, Aharony and Geva (2003), from a utilitarian perspective, shed light on the potential of an additional new layer of complexity to the law which will then undermine the law's efficiency. This is also in line with James and Wallschutzky (1997) who argue that, by having an increasing amount of legislation, more "loopholes" and revisions to the tax law are created.

Alternatively, the authority may stress the ethics and moral implications of tax planning to the taxpayers to reduce tax planning opportunities through tax law "loopholes". In presenting a case of a tax "loophole" while highlighting the moral implications of law in business, Aharony and Geva (2003) claim that the "loophole" problem will disappear if the spirit of law is treated as a guiding principle in tax planning instead of an opportunity to avoid taxes. Similarly, Murphy (2005) emphasises the efforts that restore faith and equity to the system in dealing with tax planning strategies that are designed to exploit the "loopholes". In other words, ethics and moral views could be the authorities' alternative strategy in closing the "loopholes" or in convincing the taxpayers not to exploit them. This could possibly work since tax administrations that are too strong and bureaucratic will lead to risks of distortion in the tax base (Trasberg, 2005) as in the case of more complicated tax administrations, companies tend to seek more professional advice for tax planning which will then lead to more "loopholes" being discovered, thus resulting in a country collecting lower amounts of tax. Further, it should be noted that closing the "loopholes" with more laws will bring about more costs (Braithwaite, 2003).

Based on the above literature review, it can be concluded that "loopholes" in tax law could be seen as an opportunity for tax planning activities since one would not be charged with violating the law by manipulating the "loopholes". However, the opportunities for tax planning that have emerged from the "loopholes" might not last very long since the authority could plug the "loopholes" with additional rules and regulations. Previous research also emphasises that the efforts to close the "loopholes" by enforcing more rules and regulations will entail further costs and further opportunities to avoid taxes (James and Wallschutzky, 1997; Braithwaite, 2003).

2.4.2 Firms' Specific Characteristics

This section considers how firms' characteristics can be used to explain the variation in levels of tax planning. Tax planning decisions may differ among companies due to size, leverage, capital intensity and industry classifications of

the companies. These factors refer to firms' specific characteristics in which different companies might have different characteristics that lead to various opportunities for tax planning. Previous literature has discussed the association of several firms' specific characteristics with ETR, an indirect measure of tax planning (see Zimmerman, 1983; Porcano, 1986; Kern and Morris, 1992; Gupta and Newberry, 1997; Holland, 1998; Kim and Limpaphayom, 1998; Mills *et al.*, 1998; Derashid and Zhang, 2003).

The size of a company could be related to tax planning due to the implications of public scrutiny and political cost (Zimmerman, 1983; Porcano, 1986).[4] As argued by Zimmerman (1983), the size of a company could be positively related to ETR since the large (small) companies are indicated as being exposed to greater (less) public scrutiny. Thus, in this relationship, large companies had to bear increased political costs imposed on them. With 43,515 final observations from a 35-year sample period, i.e. 1947-1981, the author documents a positive association between tax rates and firm size, a proxy of a firm's political costs. In contrast, Porcano (1986), in a study analysing corporate ETR of U.S. corporations during 1982 and 1983, finds evidence of a negative association between firm size and ETR. This might be due to the greater resources available to the larger firm in influencing the above-mentioned political cost where *"...a larger volume of assets, sales, and/or net income might be better able to utilize various tax provisions which reduce the firms' overall tax rate"* (Porcano, 1986: 22). Taking into account divergent measures of the ETR measures, Kim and Limpaphayom (1998) utilise both ETR measures set out by Porcano (1986) and Zimmerman (1983) in investigating the relationship of ETR and firm size in Pacific Basin emerging economies. The findings reveal a negative relationship between ETR and company size, which is in line with Porcano (1986). However, the authors highlight that the results are sensitive to the alternative of ETR measures.

[4] It is important to note the difference between the ETR measures of Porcano (1986) and Zimmerman (1983) in which the authors employ the following formulae respectively: 1) Current U.S. federal income taxes/Adjusted net income before tax and 2) (Income tax expense – change in deferred tax)/(Sales – cost of goods sold). Kern and Morris (1992), in extending the analysis of ETR structure, find results that suggest Porcano's (1986) results are quite sensitive to the alternative of the Value Line or Compustat database as compared to the results from Zimmerman (1983) which are robust in terms of those alternative choices.

Similarly to Porcano (1986), Derashid and Zhang (2003) also find a negative association between size and ETR in a study using Malaysian data from 1990 to 1999.[5] The negative association is also presented by Gupta and Newberry (1997) using 915 U.S. firms over a four-year period, i.e. 1987 – 1990.[6] However, during 1982 – 1985, with a sample of 823 U.S. firms, the authors find a significant positive relationship between firm size and ETR.[7] This inconsistent relationship is also reported by Holland (1998) who documents the relationship using U.K. data for a period of 26 years, i.e. 1968-1993. In investigating the relationship between firm size and ETR, Holland (1998) uses sales and assets as the proxies of firm size. In the case of size measured by sales, a significant negative relationship is found from 1978 until 1981 but, in the case of size measured by assets, the relationship is found only from 1978 and 1982. However, the results are sensitive to an industry effect. The negative association is said to be related to the cost of option in the period of maximum U.K. corporate tax rates circumstances where the author explains that *"these negative associations may arise because the incentive to choose tax reduction activities from a potential range of costly options may be higher during a period of relatively high statutory rates"* (Holland, 1998: 281).

The discussion on the above-mentioned costly option could be explained with reference to investment in tax planning. Mills *et al.* (1998) find a significant negative relationship between firm size and tax planning-related expenditure, which is measured as a percentage of selling, general and administrative expense. However, it is inappropriate to conclude that firms that have lesser spending would benefit more than the firms that spent more on tax planning (Mills *et al.*, 1998). The cost of tax planning could also be explained in relation to tax compliance cost. Similar to the explanation on investment in tax planning by Mills *et al.* (1998), total tax compliance costs of tax planning by small and medium-sized U.S. businesses are found, by Slemrod and Venkatesh (2002), to be greater than those of the large businesses. Therefore, the relationship between

[5] The findings are drawn when the ETR was measured using three methods: 1) (tax expense – deferred tax expense)/(profit before interest and tax); 2) (tax expense)/(profit before interest and tax) and 3) (tax expense – deferred tax expense)/(pre-tax profit – (changes in deferred tax/statutory tax rate)).
[6] The period is referred to as the post-Tax Reform Act of 1986.
[7] The period is referred to as the pre-Tax Reform Act of 1986.

the size of the companies and tax-saving seems to be related to the cost of tax planning options.

In addition to firm size, tax planning activities might be also associated with leverage since leverage entails an interest tax shield which leads to lower tax liability (Porcano, 1986; Kim and Limpaphayom, 1998; Derashid and Zhang, 2003). Derashid and Zhang (2003) find a negative relationship between leverage and ETR.[8] The authors claim that the finding provides evidence of the use of debt-financing as a tax shield. In line with these findings, Gupta and Newberry (1997) find evidence of a negative relationship between ETR and leverage for both periods of pre-Tax Reform Act 1986 and post-Tax Reform Act 1986 but the results are sensitive to the type of ETR measures. However, this relationship is found to be inconclusive by Kim and Limpaphayom (1998) in a study that uses a dataset from five emerging-economy countries that are Hong Kong, Korea, Malaysia, Taiwan and Thailand. The authors qualify the results as not necessarily reflecting the unimportance of the interest shield, because of the limited use of long-term debt among the samples instead.

Mills *et al.* (1998) also find inconclusive evidence about the relationship between the amount of expenditure on tax planning with leverage among 166 U.S. companies which leads the authors to conclude that *"more highly leveraged firms do not invest more heavily in tax planning"* (Mills *et al.*, 1998: 13). Based on the above literature, it could be concluded that there are mixed results regarding the association between tax planning and leverage of a company.

Other than firm size and leverage, capital intensity, which explains the utilisation of property, plant and equipment in the business activity, could also correlate with tax planning because of the general availability of specific investment incentives. This is due to its correlation with the industries in which the companies are involved, where different industries might utilise different levels of capital intensity. Previous literature finds conclusive evidence of the

[8] The findings are drawn from when the ETR was measured using two methods: 1) (tax expense – deferred tax expense)/(profit before interest and tax); 2) (tax expense)/(profit before interest and tax).

association between capital intensity and ETR. Gupta and Newberry (1997) and Derashid and Zhang (2003) find a significant negative relationship between capital intensity and ETR. Mills *et al.* (1998) find a significant positive association between capital intensity and the amount of tax planning expenditures. These results show that companies with a greater proportion of fixed assets utilise tax deductions in lowering the ETR (Gupta and Newberry, 1997). The deductions might include capital allowance and incentive provision.

In addition to the aforementioned firm-specific characteristics, industry classification could also be associated with ETR due to different opportunities to reduce tax liability by means of different tax incentives. For example, the manufacturing and hotel industries are found to be negatively related to the ETR due to various incentives in promoting industrialisation in the manufacturing industry and tourism sectors (Derashid and Zhang, 2003). Mills *et al*. (1998) find a significant positive association for the manufacturing, agriculture and mining industries while a negative association is found for the oil and gas industries. This might be due to different opportunity sets, for example, different investment incentives which are available for different industry classifications; it is explained by the authors that *"..these industries either have a richer "tax opportunity terrain" or that the tax laws specific to these industries require additional nondiscretionary spending, such as depreciation and inventory bookkeeping"* (Mills *et al.*, 1998: 13).

Based on the above literature review, it can be concluded that firms' specific characteristics create opportunities for tax planning activities due to different sets of available tax incentives being attached to different characteristics of companies. The implications of the characteristics are applicable to various economic conditions in different countries. Thus, it should be noted that, in addition to the consideration of the benefit, costs and other mediating factors of tax planning, firms' characteristics could also contribute to the explanation of a range of tax planning activity levels.

2.5 Measurements and Approaches of Tax Planning

This section discusses measurements and approaches of tax planning activities. Measures of tax planning used by previous studies vary based on data availability and researchers' general or specific interest in tax planning approaches.

2.5.1 Measurements of Tax Planning

Previous tax planning researchers utilise various measures of tax planning using both publicly and privately available data. In measuring the outcome of tax planning, tax saving could be an appropriate measure since it exhibits the gap of tax burden between "book-reporting-based" and "taxable income-based". Several tax researchers, either directly or indirectly, consider tax saving to be a consequence of tax planning (for example Scholes *et al.*, 1990; Grubert and Mutti, 1991; Scholes, Wilson and Wolfson, 1992; King and Sheffrin, 2002; Slemrod and Yitzhaki, 2002; Kirchler *et al.*, 2003; Rego, 2003; Grubert, 2004; Slemrod, 2004; Altshuler and Grubert, 2005).

Measures of tax saving is still an ongoing issue among researchers due to the appropriateness of the measure in exhibiting tax planning activity (Slemrod, 2004). This is because tax burden-related data could not be accessed by external parties. The most common measures that are of use to researchers are book-tax gap (for example Plesko, 2003; Desai and Dharmapala, 2009) and ETR (for example Mills *et al.*, 1998; Rego, 2003). Discussions on the measurements of tax planning are further detailed in Chapter 6 of this thesis.

2.5.2 Approaches of Tax Planning

There are several approaches that could be employed by companies in carrying out their tax planning activities. The approaches that are discussed in this section

consist of profit-sharing or income-shifting, changes of income characteristics, reorganisations and involvement in tax-exempt or tax-favoured investments. However, these approaches may not precisely and appropriately describe tax planning approaches in the future since requisite uncertainty exists whereby popular approach could be easily detected and shut down by the authorities in which in the scenarios when many taxpayers adopted the said approach, the authorities could gain more information to target their efforts in preventing or limiting the tax planning opportunity by that particular approach (Curry *et al.*, 2007).

2.5.2.1 Profit-Sharing/Income-Shifting

Profit-sharing or income-shifting exists in the case of different tax rates and tax provisions across time, location and type of income. Taxpayers, using this approach, modify the nature of incomes so that the profit or income could be either shared with or shifted to related parties that are subject to tax in lower tax jurisdictions. Slemrod (1995) refers to income-shifting as an activity to reclassify a set of real transactions for tax objectives. Tax planning by way of profit-sharing (for example, transferring profits to subsidiaries in different tax jurisdictions) or income-shifting is of concern to the authorities because it has several negative implications, as discussed by Gordon and Slemrod (2000). These comprise misleading distributional statistics, misleading corporate rates of return and efficiency consequences in estimating marginal excess burden resulting from any tax change. According to the Scholes-Wolfson framework, companies may become involved in tax planning through profit-sharing or income-shifting by transferring the income from "one pocket to another pocket", or shifting the income in terms of geographical business location that is transferring the profits to the lower tax jurisdictions and shifting the income over time.

2.5.2.1.1 "One Pocket to another Pocket"

Transferring the income from "one pocket to another pocket" is related to a strategy of tax planning that converts a taxpayer's income from one form into

another that would minimise the tax on that particular income under the taxpayer's control. Scholes and Wolfson (1992) explain this approach in the light of strategies by high-tax-bracket taxpayers to receive income from a tax-exempt pension fund instead of from a personal account and to earn the income from their low-tax-bracket business. This approach of income transfer might also take into account a geographical income-shifting strategy as discussed below.

2.5.2.1.2 Geographical

Shifting the taxable income from a domestic company to other countries is claimed by Fuest and Weichenrieder (2002) as one type of income-shifting in a stylised model of a small open economy. Shifting the income geographically could be brought about by MNC in which at least one of the foreign businesses is located in a low-tax jurisdiction. In other words, companies that are operating in more than one jurisdiction would have a greater opportunity to avoid tax. This is in line with the findings by Mills *et al.* (1998) where companies that have foreign operations (expressed by a dummy variable of foreign asset) invest to a greater extent in tax planning as compared to their counterparts. The findings, however, are found to be sensitive to an industry classification. In addition to the above interpretation, this result, alternatively, could also imply high compliance costs incurred by companies with foreign operations since investment in tax planning is measured as inclusive of tax department salaries, outside legal and accounting costs, and other tax planning expenditures.

The geographical income-shifting strategy could be carried out by the MNC since there are geographically different applications of tax rates between countries (Klassen *et al.*, 1993). The relationship between ETR and MNC is empirically investigated by Rego (2003) in probing the difference of ETR between MNC and domestic-only companies (DOC) in the U.S. The research indicates that the MNC's ETR is lower than that of the other counterparts although the MNC's pre-tax income is higher than the DOC's since MNC carries a high volume of transactions and also benefits from economies of scale and scope. Thus, this supports the argument that the geographical income-shifting

strategy can achieve efficient tax planning. In addition, Klassen *et al.* (1993) also significantly observe the same phenomena among U.S. MNC due to changes in tax rates during 1985 until 1989. During the sample period, the authors observe the income-shifting strategy by MNC in planning their tax when there were reductions in tax rates in the U.S., Canada, Europe and other countries. Throughout the period, in 1985 and 1986, the Canadian tax rates were increased while European tax rates were decreased. Meanwhile in 1987, the U.S. tax rates were decreased while the Canadian and European tax rates were unchanged. In 1988, other countries' (other than U.S., Canada and Europe, for example Japan and Australia) tax rates were decreased and, in 1989, Canadian tax rates were decreased. Based on the results, the authors find evidence of income-shifting activities during the tax rate-reduction years. Table 2.1 exhibits the phenomena of income-shifting among multinational U.S. companies during the period.

Table 2.1

Geographical Income-Shifting among Multinational U.S. Companies from 1985 until 1989[9]

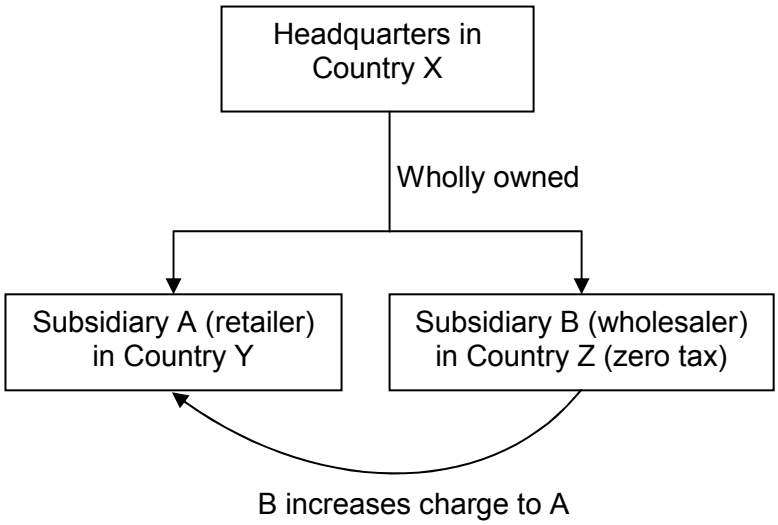
Year	Tax Rates Changes				Geographical Income Shifting
	U.S.	Canada	Europe	Others	
1985, 1986	-	Increase	Decrease	-	From Canada to U.S., from U.S. to Europe
1987	Decrease	Constant	Constant	-	To U.S.
1988	-	-	-	Decrease	From U.S. to non-U.S. (other than Europe and Canada)
1989	-	Decrease	-	-	From non-U.S. to Canada

[9] Source: Klassen, K., Lang, M. & Wolfson, M. (1993) Geographic income shifting by multinational corporations in response to tax rate changes. *Journal of Accounting Research,* 31 (Supplement), 141-173.

The strategy of tax planning via shifting the income geographically is also associated with transfer pricing. Transfer pricing is defined as *"the method of establishing prices of raw materials, goods, or services that are transferred within the corporation among the parent and its subsidiaries, or among different subsidiaries"* (Martinson *et al.*, 1999: 92). Bruce *et al.* (2007) claim that transfer pricing is a common type of tax planning. This is in line with one of the objectives of transfer pricing that is minimising worldwide tax (Martinson *et al.*, 1999).[10] In explaining how transfer pricing works among related companies, Bruce *et al.* (2007) provide an example as exhibited by Figure 2.1.

Figure 2.1

Transfer Pricing among Related Companies



In the case where Country Y does not impose combined reporting and there is no corporate tax charged in Country Z, the transaction between A and B (i.e. B increases charge to A) could reduce overall tax liability (see Bruce *et al*., 2007).

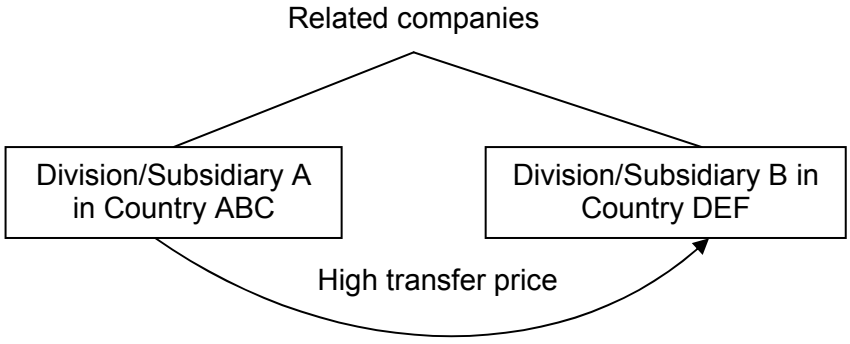
Similarly, Martinson *et al.* (1999) highlight the increase of group after-tax cash flow benefit through transfer pricing. With reference to Figure 2.2, related companies of division or subsidiary A in Country ABC and division or

[10] The authors list the other five objectives as "*minimize import duties, bolster a subsidiary's financial, condition, circumvent government placed restrictions on capital flows (repatriation of profits), apply managerial performance measures, and adjust for currency fluctuations"* (Martinson *et al.*, 2007: 92).

subsidiary B in Country DEF suffer low and high corporate tax rates respectively. In the case where A performs a high transfer price to B, A will increase its taxable income while B will experience a decrement of income due to high costs.

However, it should be noted that the level of tax manipulation in transfer pricing may vary according to an independence of managerial control. This is evidenced by Chan *et al.* (2006) in examining the impact of managerial autonomy on tax compliance in an international transfer pricing context. By utilising 163 field-audited-for-transfer-pricing-manipulations cases that were filed by tax bureaus in coastal China in 2002, the authors find conclusive evidence that foreign investment enterprises, which have more managerial autonomy in setting transfer prices or sourcing from outsiders, experienced lesser tax audit adjustments as compared to parent-dictated foreign investment enterprises.

Figure 2.2
Increase After-Tax Cash Flow through Transfer Pricing[11]



In addition, managers, in conducting tax planning through transfer pricing, should also pay attention on "*Arm's Length Principle*". This principle allows the tax authority to consider "arm's length price", i.e. the price based on unrelated parties transaction, instead of the actual transfer price charged between the related parties in determining the companies' taxable income (Lymer and Oats,

[11] Source: Martinson, O. B., Englebrecht, T. D. & Mitchell, C. (1999) How multinational firms can profit from sophisticated transfer pricing strategies. *Journal of Corporate Accounting & Finance,* 10**,** 91-103.

2008). In other words, the "arm's length price" limits the tax saving by way of price determination by the authority. Therefore, tax planning through transfer pricing may not be able to maximise the tax saving as expected since the HMRC can substitute the "arm's length price" for any "artificial" price from the authority's point of view (Lymer and Oats, 2008).

2.5.2.1.3 Time

Shifting the income in terms of time mainly engages the activities of delaying the recognition of income and deferring tax payments. Scholes and Wolfson (1992) highlight that taxpayers would prefer to delay income recognition in the case of constant or declining tax rates over time. Further, the authors claim that the strategy of deferring the tax payment can be beneficial if there is no interest charge on the tax liability. This is also observed by Shackelford and Shevlin (2001) who note that, during the Tax Reform Act of 1986, which phased in tax rate reductions through until 1988, firms were said to have a high willingness to seek tax saving by deferring earnings. This effort of tax planning may also be realised by alternative accounting approaches, for example, the choice of accounting approach for inventory. Consequently, the accounting income would be affected by the choice and thus it would influence the taxable income accordingly. However, one should note that shifting the income by way of time should require a thorough examination of a firm's value and financial reporting regulations as the low reported income in the current year could be perceived negatively by shareholders which in turn would negatively reflect the firm value of the company.

2.5.2.2 Change of Characteristics of Income

The taxpayers may also be involved in tax planning through the changes of characteristics of an income. The changes are mainly related to the income-shifting strategy since the strategy provides an opportunity to companies to alter the nature of the income from domestically-received to foreign income. The

companies may then benefit from double taxation relief if the income is then remitted to the U.K. (Arthur Weller, 2005).

In addition, companies may pursue tax planning by way of changes in the characteristics of an income through a modification from income-revenue in nature to capital gain in nature. This strategy will be effective in the situation of lower capital gain tax rates as compared to income tax rates. Similarly, a company may also be involved in tax planning by changing the nature of an income from a business to non-business income, or *vice versa*. Bruce *et al.* (2007), in a U.S. state business tax planning study, highlight that companies reclassify business income as non-business income and then transfer to a low-tax or no-tax state to reduce the state tax burden. Similarly, by reclassifying a non-business income as a business income, a company may reduce the tax burden since the business income would be eligible for a capital allowance deduction and treatment of business losses deductions.

2.5.2.3 Organisational Structure

Another tax planning approach which could be adopted by companies is reorganisations. Tomsett and Noble (1986) explain the tax planning via reorganisations by examining both domestic and international companies. The said reorganisations by domestic companies include share reorganisations, amalgamations and mergers, reconstructions, demergers, management buyouts and purchasing their own shares, while the international companies may be involved in conversion from branch to subsidiary or *vice-versa*, and multinational mergers and reorganisations. In a case-study of a conglomerate, Hanson Plc, Stonham (1997) documents that the company benefited from its tax planning by means of a demerger strategy in 1996 in which the company successfully obtained both U.K. and U.S. tax authorities' approval of a tax-free distribution of the stock dividend to their nationals. This led the company to gain several benefits in the form of tax exemption, a lower tax bill and a tax shield. However, a taxpayer should conduct a comprehensive investigation prior to the

adoption of this approach due to differing structures and the complexity of a demerger (Practical Law Company, 1996).

Similarly, a tax planning approach through reorganisation could be done by means of changes to the residential status of a company. This strategy is also referred to as "corporate migration" or "corporate inversion" (A&L Goodbody, 2009). Bahamas Financial Service Board (2004) explains tax planning through corporate inversion as expatriating domestic companies through a change of corporate address. A&L Goodbody (2009) reports that several large MNC, for example Ingersoll Rand, WPP and Henderson and Accenture, were observed to migrate their corporate holding companies to Ireland to enjoy tax planning benefits since that country provides tax incentives to holding companies, for example, exemption on qualified capital gains, domestic exemptions from withholding tax and lower tax rates on Ireland-derived trading income. Based on the above discussion, tax planning through organisational structure could be accomplished through demerger, corporate migration and corporate inversion.

2.5.2.4 Tax-Exempt or Tax-Favoured Investment

In addition to the above-mentioned tax planning strategies, dealing with tax-exempt or tax-favoured investment might also be an effective tax planning strategy. Scholes *et al.* (2005) refer to tax-favoured investments as investments that are taxed explicitly more lightly than fully taxable bonds. Tax-favoured investments may enjoy several types of tax-favoured status, for example, full tax exemption and tax credits, and in fact the investment may enjoy more than one tax-favoured status.

Hence, it is obvious that tax-favoured investments could influence the taxable income and this is highlighted by Manzon and Plesko (2001-2002) in a study of book-tax income spread which specifically examines the difference between income for tax and financial reporting purposes using 11 years of data (1988 to 1998). The book-tax income is computed as the difference between U.S. domestic reporting income and U.S. domestic taxable income. The research

considers investments in venture capital companies, real estate and investment trusts, energy-related investment and research and development. The evidence supports the arguments on the efficient use of tax deduction, tax credit and tax exemption by profitable companies. Therefore, by investing in tax-favoured investments, companies should ideally enjoy tax incentives as a result of effective tax planning.

2.6 Conclusions

This chapter reviews the tax planning literature with a focus on effective corporate tax planning. The review begins with a discussion of definitions and theories of tax planning. The chapter further details the objectives and constraints of tax planning and this is followed by discussions of the motivations of tax planning. Literature about tax planning opportunities due to "loopholes" in tax law and firms' characteristics is further reviewed to discuss how tax planning using one approach and one measure differs among companies. As there are several measures and approaches of tax planning activities, the following section discusses several tax planning measurements employed by previous studies and several approaches or strategies of tax planning utilised by companies in achieving their tax planning objective.

Overall, based on the literature, tax planning interpretation is basically referring to tax avoidance and evasion. Due to the difficulty in differentiating "acceptable" avoidance and "unacceptable" avoidance, and identifying evasion, this study considers both avoidance and evasion in defining tax planning. Tax planning activities among companies are mainly triggered by the availability of the opportunity to avoid tax, derived from "loopholes" in tax law and firms' specific characteristics. The activities are carried out by companies with different objectives, for example increasing after-tax returns or increasing after-tax cash flow, but these objectives could be restricted by constraints of tax planning, for example, direct and indirect (non-tax) costs of tax planning. Several tax planning approaches have been identified, comprising profit-sharing, change of

characteristics of income, reorganisation and tax-favoured investment. Factors that motivate tax planning activities are primarily based on the expected benefits of tax planning and this motivating factor could be moderated by other factors, i.e. corporate governance linked to stakeholders' opinion considerations. Corporate governance in moderating tax planning activities is of interest to researchers as shareholders have limited access to companies' tax planning-related information. Therefore, there is a possibility of incongruence of tax planning objectives between the managers and the owners of the companies. This phenomenon, which is called conflict of interest, is widely explained in corporate governance literature. Thus, the next chapter will review the literature on corporate governance, including the examination of the theories, requirements and mechanisms of corporate governance.

Chapter 3

Corporate Governance

Corporate governance is important in explaining management behaviour and how a company is monitored, especially in mitigating the conflict between owners and management. A report on corporate failure and accountability by The Committee on the Financial Aspects of Corporate Governance ("The Cadbury Committee") in the U.K. namely *The Financial Aspects of Corporate Governance* (*"The Cadbury Report",* 1992) defines corporate governance as *"the system by which companies are directed and controlled"* (Committee on the Financial Aspects of Corporate Governance, 1992: Para 2.5). Corporate governance issues have been widely discussed and researched due to the information asymmetry implications on shareholders' wealth. The underlying theories of the issues are led by the agency theory which is mainly concerned with the phenomenon of a separation between ownership and control in the context of information asymmetry. This is in line with the work of Boubakri, Cosset and Guedhami (2005), where corporate governance is defined as "*a response to the agency problems that arise from the separation of ownership and control in a corporation"* (Boubakri *et al.*, 2005: 370). In addition to agency theory, this chapter also discusses other relevant theories and approaches, comprising the transaction cost-economics approach, stakeholder theory and stewardship theory.

3.1 Theories of Corporate Governance

The underlying theories of corporate governance vary depending on the scope and focus of a discussed phenomenon. Mallin (2007) explains the main theories that could reflect the development of corporate governance as consisting of agency theory, transaction cost-economics approach, stakeholder theory and stewardship theory. These theories are important in explaining various topics in corporate governance, for example, corporate performance and corporate governance mechanisms. This is due to the functions of the theory that could systematically predict, explain and support the cause-and-effect relationship of the variables or observed phenomenon (Zikmund, 2003; Babbie, 2004; Malhotra and Birks, 2007; Saunders, Lewis and Thornhill, 2007).

3.1.1 Agency Theory

Mallin (2007) summarises agency theory as a theory that *"identifies the agency relationship where one party, the principal, delegates work to another party, the agent. In the context of a corporation, the owners are the principal and the directors are the agent"* (Mallin, 2007: 12). Agency theory is underpinned by the agency relationship, which is defined as *"a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent"* (Jensen and Meckling, 1976: 308). With reference to the agency relationship, as there is separation between ownership and control, the agency problem will occur when the management, who act on behalf of the owners, might not actually behave in such a way as to maximise the owners' welfare (Jensen and Meckling, 1976).

The objective of wealth maximisation by the managers may be triggered by the information asymmetry between the owners and managers since the managers have more access to the companies' information as compared to the owners and therefore, the owners are unable to monitor the agents effectively. Managers' status, remuneration and job security are among potential wealth maximisation

objectives (Weir, Laing and McKnight, 2002). Thus, it is important for shareholders to control the agency problem since the shareholders-managers conflict may impair the endurance of the company as the managers are likely to pay more attention to the opportunity to maximise their own wealth instead of the future of the company. This is highlighted by Fama and Jensen (1983) in which the control of an agency problem can be regarded as an important survival factor for a company.

In addition to the separation between ownership and control, separation between management and the control of decision systems also contributes to the conflict of interests. This is argued by Fama and Jensen (1983) where decision hierarchies, boards of directors and incentive structures are further highlighted as devices of the separation. In this context, the agency problem is referred to as the problem of separation between residual risk-bearing and decision functions while management and control are respectively referred to as initiation and implementation, and ratification and monitoring.

Therefore, it is important for shareholders to take some initiatives to limit or at least reduce the agency problem in order to ensure that the managers run the company and act on behalf of the shareholders' interests. However, the initiatives will apparently incur some costs. The costs are explained by Jensen and Meckling (1976) as agency costs. Agency costs are the costs that exist due to the complex set of contracting relationships and the said costs can be interpreted as follows: the total of monitoring expenditures by the principal (for example auditing, compensation, operating rules and budget restriction); bonding expenditures by the agent; and residual loss (Jensen and Meckling, 1976; Fama and Jensen, 1983). In addition to the shareholders-managers relationship, an agency relationship also exists between bondholders and shareholders. This relationship focuses on the conflict of interest between the bondholders, who aim to maximise the value of the firms' debts, and the shareholders, who aim to maximise the equity value of the firms (Brander and Poitevin, 1992). In this context, the principals (bondholders), who depend on the agents (shareholders) to increase the debt value, will require high interest rates to ensure that the expected return from the debt is equal to the return from the other alternative uses of the

bondholders' funds (Brander and Poitevin, 1992). This in turn can result in the above-mentioned agency cost of debt covenant (Jensen and Meckling, 1976).

In summary, agency theory is a theory in corporate governance that explains the agency problem due to the agency relationship. The agency relationship is mainly about the relation between principals and agents in which both parties have respective self-interests of wealth maximisation. Thus, agency costs have to be incurred by the principals in order to align these interests which will then ensure the survival of the company.

3.1.2 Transaction Cost-Economics Approach

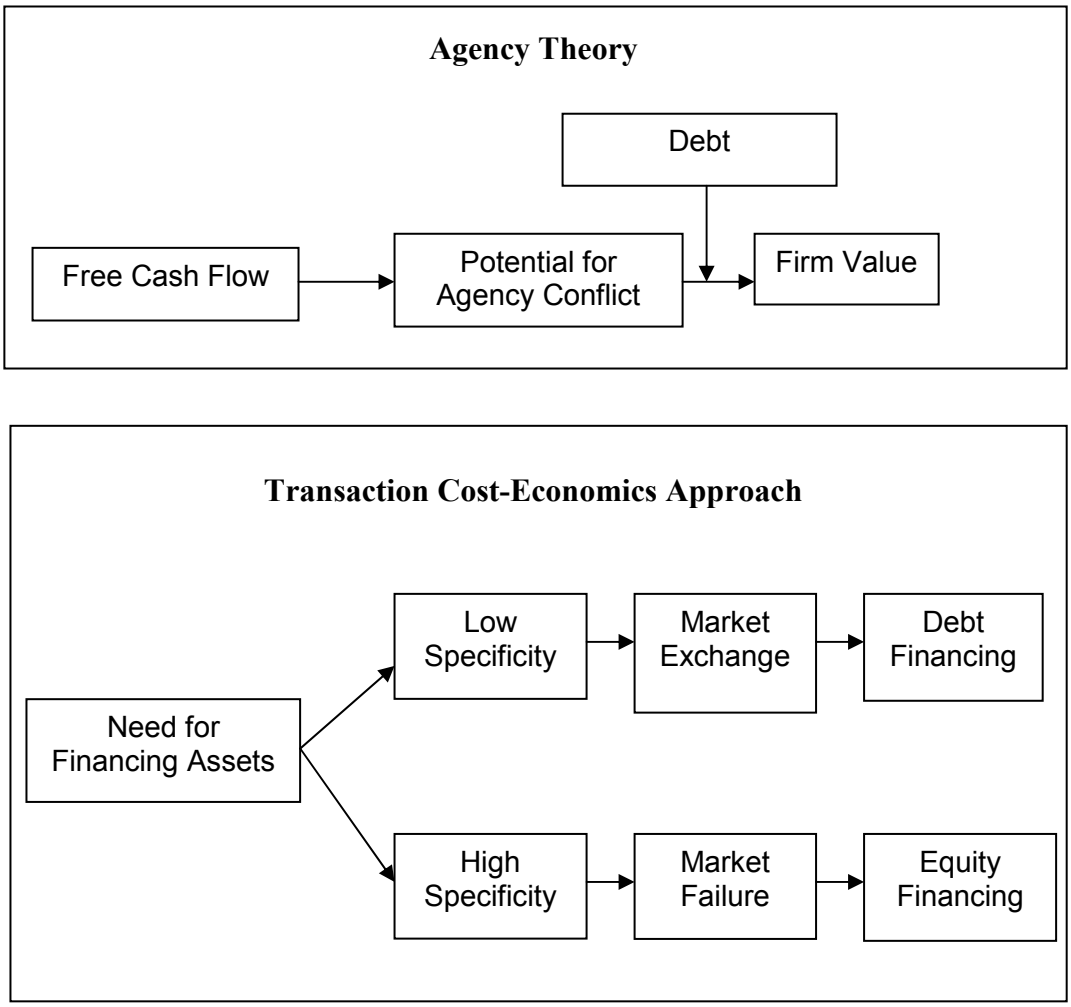
Transaction cost-economics is an approach that explains institutions in terms of transaction costs. Williamson (1981), using an economic approach, highlights that transaction cost-economics regards a firm as an organisation that accomplishes a transaction which, together with its governance structure, is further used as a basic unit of analysis in organisational study. In this context, transaction cost is defined as *"the management costs associated with either internally producing the service or buying it through contracting"* (Brown and Potoski, 2003:443). Based on this definition, transaction cost can be interpreted as the cost that has been incurred in mediating a transaction, which is elaborated by Williamson (1981) as comprising *"comparative costs of planning, adapting, and monitoring task completion under governance structures"* (Williamson, 1981: 552-553). These costs are explained by Coase (1937) as being due to uncertainty and lack of information between contracting parties, for example in terms of corporate governance, the cost is incurred because of information asymmetry between the shareholders and the managers. In this case, the managers are seen as the "specialists" who have full access to the companies' information while the shareholders are referred to as the "contracting parties" who need to incur the cost of "negotiating and concluding" the contract of a transaction, so as to reduce the risk of managerial opportunism.

From the above explanations, the main concern of transaction cost-economics can be concluded as cost-economising where the said cost is inclusive of the cost associated with governance structure in which it *"essentially reduces to economizing on bounded rationality while simultaneously safeguarding the transactions in the question against the hazards opportunism"* (Williamson, 1979: 246). The costs are also explained by Kochhar (1996) as related to the setting up and enforcement of the governance structure. The underlying premise of this approach also lies in the insight of different institutional arrangement effects towards dissimilarities of governance outcomes (Shelanski and Klein, 1995). Therefore, to economise the transaction cost, corporate governance mechanisms are essential for shareholders in "negotiating and concluding" the contract of a transaction. Romano (1999) highlights that, in view of the transaction cost-economics approach, shareholder voting rights, directors' and officers' fiduciary duties to the shareholder, federal disclosure requirements and the market for corporate control are the internal and external corporate governance mechanisms established by corporate law. Thus, the transaction cost-economics approach can be concluded as an approach that explains the agency problem with an orientation of a corporate law.

The difference between the transaction cost-economics approach and agency theory can be illustrated from the firm capital structure perspective. Transaction cost-economics concentrates more on governance of the contractual relationship, that is, focusing on characteristics of the transaction, whereas the agency theory is more concerned with governance structure in aligning shareholders'-managers' interests, that is, concentrating on the characteristics of the agents (Kochhar, 1996). The aforementioned characteristics of a transaction can be revealed by different types of financing for different levels of financial asset specificity in which a high-specificity asset would not attract the debt finance due to a high risk of market failure caused by a high cost in market exchange. This then requires shareholders to incur extra costs, in terms of the governance structure of the transaction, in ensuring management effectiveness in dealing with the high specificity of financing assets. In this perspective, the transaction cost-economics approach can be claimed as viewing the governance system as a governance structure of a transaction that comprises the *"set of rules, principles, and*

institutions that frame a transaction" (Speckbacher, 2008: 297). The comparison between agency theory and the transaction cost economics-approach is clearly presented by figure 3.1, which is adopted from Kochhar (1996).

Figure 3.1
Agency Theory versus Transaction Cost-Economics Approach: Capital Structure Perspective[12]



Based on the above discussions, it can be summarised that the transaction cost-economics approach indicates a governance structure of a contract between shareholders and managers as an essence to clarify the shareholders-managers alignment problem. Similarly to agency theory, information asymmetry underpins the transaction cost-economics approach but they are different in terms

[12] Source: Kochhar, R. (1996) Explaining firm capital structure: The role of agency theory vs. transaction cost-economics. *Strategic Management Journal*, 17 (9), 716-717.

of the focus of corporate governance in which agency theory concentrates on the managerial behaviour while transaction cost economics focuses on the governance structure of a transaction. This is in line with the summary by Mallin (2007) where the transaction cost-economics approach considers the firm as a governance structure in aligning mangers' and owners' interests.

3.1.3 Stakeholder Theory

Jensen (2001) explains stakeholder theory as a theory that *"says that managers should make decisions that take account of the interests of all the stakeholders in a firm"* (Jensen, 2001: 8). The author refers to stakeholders as comprising any individual or group that can affect or be affected by the welfare of the firm, for example employees, customers, communities at large and government officials. Similarly, Mallin (2007) summarises stakeholder theory as a theory that *"takes account of a wider group of constituents rather than focusing on shareholders. Where there is an emphasis on stakeholders, then the governance structure of the company may provide for some direct representation of the stakeholder groups"* (Mallin, 2007: 12). In view of established corporations, stakeholder theory aims to guide and explain the companies' structures and operations with the foundation that the corporation is an entity through which several parties accomplish their various and different objectives (Donaldson and Preston, 1995). Thus, it can be concluded that, as compared to agency theory and the transaction cost-economics approach, stakeholder theory deals with a wider range of parties in corporate governance.

In summary, this theory explains that the managers are expected to serve not only the shareholders but also have to consider other parties that can be affected by activities of the company. Therefore, managers need to clarify the conflicting interests among the stakeholders to ensure the best level of implications from decisions made in accommodating those interests. Table 3.1 lists examples of conflicting interests among customers, employees, suppliers of capital and communities. Upon realising that it is impossible to fulfil all of the stakeholders' interests, Jensen (2001) highlights that, in stakeholder theory, the essential

concern of the managers is to react so as to minimise the social waste in benefiting all relevant parties.

Table 3.1

Conflicting Interests of Stakeholders[13]

Stakeholder	**Interest**
Customers	Low price, high quality, full service
Employees	High wages, high-quality working conditions, fringe benefits including vacations, medical benefits, pensions
Suppliers of capital	Low risk, high return
Communities	High charitable contributions, social expenditures by companies to benefit community at large, increased local investment, stable employment

From the perspective of stakeholder theory as an alternative model of corporate governance, Sternberg (1997) claims that stakeholder theory is appropriate to play a role as a "convenient reminder" and as a "key to social responsibility". The term "convenient reminder" is referred to by the author as an alarm to various groups and individual in the organisation about other affected parties in pursuing their respective objectives, while "key to social responsibility" is referred to as everybody's contributions to economic conditions which in turn reflect the business decisions. Therefore, stakeholder theory can be concluded as a corporate governance theory that considers various beneficiaries through the emphasis of awareness about other affected parties and social responsibility.

Based on the above discussions, stakeholder theory could be perceived as a theory that comprehensively considers all beneficiaries or all individuals and groups affected by decisions made by the management of the companies. However, previous researchers argue that stakeholder theory might not be capable of providing better corporate governance (Sternberg, 1997; Letza, Sun and Kirkbride, 2004). This is due to the debates on a divergence of corporate governance focus in stakeholder theory that is focusing on stakeholders instead

[13] Source: Jensen, M. C. (2001) Value maximization, stakeholder theory, and the corporate governance function. *Journal of Applied Corporate Finance,* 14 (3), 13.

of shareholders, in which shareholders are seen to be the authority of the companies since they own the business. Sternberg (1997) argues that stakeholder theory might be incompatible with corporate governance since the theory is not in line with the key concept of corporate governance that is accountability of management to shareholders and accountability of corporate employees and other corporate agents to the shareholders through the management. Thus, in corporate governance, it is important to note the differences in perspective in respect of shareholders' and stakeholders' views where, in terms of shareholders, the corporate governance is viewed as a private matter while stakeholders view the corporation as a social entity (Letza *et al.*, 2004).

Due to the above arguments, Friedman and Miles (2002) present a model that combines stakeholder theory with a realist theory of social change and differentiation in which the model provides a clearer understanding in terms of the reasons and ways in four matters: firstly, different ways of influencing the organisation by different stakeholders; secondly, different influences on organisations by different stakeholders; thirdly, not all stakeholders are considered as legitimate by organisations; and finally, changes in the organisation-stakeholder relationship over time. In addition to the model by Friedman and Miles (2002), the stakeholder-agency theory as suggested by Hill and Jones (1992), which intends to combine both notions of power and efficiency, could also ease the arguments on corporate governance focus between shareholders and stakeholders. The model views the managers as being responsible to shareholders while benefiting other stakeholders (Hill and Jones, 1992).

Overall, it can be concluded that shareholders are not the only affected parties to be considered in a decision-making process by the managers. This is due to the contributions of stakeholders in terms of capital, skills and other factors. However, it is important to note that it is impossible for the managers to satisfy all stakeholders due to conflicting interests among stakeholders. This leads to several arguments which then suggest alternative models and paradigms to the stakeholder theory. However, the suggested theory or paradigm is still paying attention to the importance of the stakeholders' welfare.

3.1.4 Stewardship Theory

Stewardship theory regards directors as *"the stewards of the company's assets and will be predisposed to act in the best interest of the shareholders"* (Mallin, 2007: 12), and therefore corporate governance mechanisms are seen as unimportant in disciplining the managers from the shareholders' point of view. As compared to previously-mentioned theories, stewardship theory positively views managers' actions, concentrating on the role of managers as stewards of a company in which the managers are presumed to run the business with the aim of fulfilling the principals' interests. The theory is based on the premise that managers are *"stewards whose motives are aligned with the objectives of their principals"* (Davis, Schoorman and Donaldson, 1997: 21). In contrast to agency theory, which regards the managers' actions as being undertaken to maximise their own wealth, stewardship theory emphasises the function of managers in maximising the principals' wealth (Donaldson and Davis, 1991; Davis *et al.*, 1997; Muth and Donaldson, 1998).

Based on the assumption that the two theories (agency theory and stewardship theory) are competing one another, Donaldson and Davis (1991), in research investigating the association of the role and rewards of the chief executive officer (CEO) with the return on equity, find that CEO duality (i.e. the CEO is also the chairman) leads to a higher return for the shareholders. This result is interpreted by the authors as an empirical finding that supports stewardship theory where the combination of both positions of CEO and chairman leads to a higher return for the shareholders. This result contrasts with the assumption of agency theory that the combination of both positions will lead to higher managerial opportunism (Vafeas and Theodorou, 1998) and thus will result in a lower return to shareholders. The finding by Donaldson and Davis (1991) implies that the combination of the positions positively affects shareholders' interests since, as claimed by Weir *et al.* (2002), the director that holds both positions is likely to have more knowledge and understanding of a company's operation and will thus positively affect shareholders' wealth.

In view of previous literature, it can be concluded that stewardship theory is a theory that conflicts with agency theory. However, it is inappropriate to deny agency theory's contributions to corporate governance as it has dominated corporate governance research since 1976 (see Jensen and Meckling, 1976), relative to stewardship theory. Therefore, in explaining a theory of the firm, various theories should be referred to, depending on the main focus of the governance issue, for example, agency theory is about conflict of interests, transaction cost-economics theory is about contracting parties, stakeholder theory relates to various interested parties and stewardship theory concerns the stewardship view of managerial actions.

3.2 Corporate Governance Requirements

Studies, on the importance of corporate governance in monitoring executive activities while managing the business, have been highlighted since the early 1990s (see Keasey, Short and Wright, 2005). Similarly, specific corporate governance requirements in the U.K. have been in force since 1992 when corporate governance codes were implemented following the formation of the Cadbury Committee in 1991. Table 3.2 summarises the development of U.K. corporate governance regulations from 1992 until 2009.

Table 3.2

Corporate Governance Regulations in U.K.[14]

Date of Publication	Regulations /Publications	Main Purpose /Recommendations	Relevant Authority /Issuing Body
December 1992	Code of Best Practice – "The Financial Aspects of Corporate Governance" (The Cadbury Report)	To improve financial accountability to shareholders through: • Information – full disclosure of highest directors' and chairman's remuneration; report on internal control and going concern • Continued self-regulation • Separation of CEO and chairman unless there are strong and independent non-executive directors • Membership of the board – Should consist of both executive and non-executive directors • Non-executive directors' independence • Audit committee independence – At least three non-executive directors • Executive directors' contracts – Should not be more than three years without shareholders' approval • Remuneration committee – comprise wholly or mainly non-executive directors	Cadbury Committee

[14] Source: Demirag, I., Sudarsanam, S. & Wright, M. (2000) Corporate governance: Overview and research agenda, *The British Accounting Review*, 32 (4), 342-343, Keasey, K., Short, H. & Wright, M. (2005) The development of corporate governance codes in the U.K. In *Keasey, K., Thompson, S. & Wright, M. (Eds.) Corporate Governance Accountability, Enterprise and International Comparisons. 2nd ed.,* West Sussex: John Wiley & Sons, 24 and Mallin, C. A. (2007) *Corporate Governance, 2nd ed.,* Oxford: Oxford University Press, 27.

April 1993	Amendments of Listing Rules by U.K. Stock Exchange	To require the company to provide the information on the compliance with the Cadbury recommendations (from 1 July 1993)	LSE
December 1994	Rutteman Guidance on Internal Control and Financial Reporting	To provide guidance to limit the directors' reporting responsibilities to internal financial control and assess the directors' effectiveness	Rutteman Committee
July 1995	Code of Best Practice – "Directors' Remuneration" (The Greenbury Report)	To emphasise the role of independent non-executive directors and disclosure of all components of remunerations through: • Exclusively independent non-executive directors' membership in remuneration committee • Annual report to shareholders by remuneration committee • Shareholder approval for adoption of long-term incentive plan • Requirement for issuance of share option	Greenbury Committee
October 1995	Amendments of Listing Rules by U.K. Stock Exchange	To require the company to provide the information on the compliance with the Greenbury recommendations	LSE
June 1996	Amendments of Listing Rules by U.K. Stock Exchange	To ensure the issue of share options in phases instead of in one large block	LSE
January 1998	"Committee on Corporate Governance" Report (The Hampel Report)	• To review the implementation of Cadbury and Greenbury recommendations • To restrict the regulatory burden on companies i.e. from 'check-list' method to issuance of list of applied principles of corporate governance	Hampel Committee

March 1998	Modern Company Law for a Competitive Economy	To provide consultative document in outlining the revision and modernization of the framework of company law[15]	Department of Trade and Industry (DTI)
June 1998	The Combined Code	To provide a set of 18 principles and 48 codes comprising of Cadbury, Greenbury and Hampel recommendations with main extended recommendations on: • At least three non-executive directors on the boards and the non-executive directors should not be less than a third of the boards • Independence of non-executive directors • Justification for unitary leadership • Identification of members in nomination committee in annual report • Re-election of all directors at least every three years • The board, instead of remuneration committee, should report to the shareholder about remuneration matters • Indication of the level of proxy votes, the balance of for and against for each resolution in AGM. • Availability of the chairs of audit, remuneration and nomination committees in AGM • At least three non-executive directors in which the majority should be independent	Hampel Committee

[15] See reports and publications by Department for Business Innovation and Skills Department, formally known as Business Enterprise & Regulatory Reform, *http://bis.ecgroup.net/Publications/BusinessLaw/CorporateGovernance.aspx.*

		as the members of audit committee and the members should be mentioned in the annual report	
February 1999	The Strategic Framework: Modern Company Law for a Competitive Economy	• To provide a fundamental review of company law[16] • To examine issues relating to the legislative form of implementation, and the institutional structures for ongoing reform[17]	DTI
March 1999	DTI consultative paper – Political Donations by Companies: A Consultative Document	To provide a consultative paper to amend Companies Act on shareholder consent prior to political donations	DTI
July 1999	DTI consultative paper – Directors' Remuneration: A Consultative Document	To provide a consultative paper to propose: • Increase disclosure of the relationship between performance and pay • Simplification of share option disclosure • Measures of shareholders' votes on remuneration reports	DTI
September 1999	Turnbull Report on Internal Control	To develop practical and robust guidance that requires the directors to include the reviews of operational and compliance controls and risk-management in the report	Turnbull Committee
September 1999	Recommendations by Law Commission/Scottish Law Commission	To recommend a statutory requirement for principal duties of directors and definition of a director's duty of skill and care	Scottish Law Commission
March 2000	Modern Company Law for a Competitive Economy: Developing the Framework	To provide a consultative paper for: • The role of directors, shareholders and reporting and	DTI

[16] Ibid.
[17] Ibid.

		accounting • Simplification of reporting disclosure for private companies	
November 2000	Modern Company Law for a Competitive Economy: Completing the Structure	To provide consultative paper in developing previous documents with reference to responses and comments	DTI
March 2001	Myners review – Institutional Investment in the United Kingdom: A Review	To highlight the standards and promoting greater (i.e. institutional) shareholder activism	HM Treasury
February 2002	Government consultation document – Encouraging Shareholder Activism	• To embark proposed legislation in U.K. law about active monitoring and communication between management and investee companies • To exercise shareholders' vote	Department for Work and Pensions and HM Treasury
July 2002	Government's White Paper – Modernising Company Law	• To codify the directors' obligations • To enhance the transparency of the operation of AGM	House of Commons Trade and Industry Committee
October 2002	Institutional Shareholders Committee's Statement of Principles	To outline the responsibilities of institutional shareholders and agents	Institutional Shareholders Committee
January 2003	Higgs review – Review of the Role and Effectiveness of Non-Executive Directors	To review the role and the effectiveness of non-executive directors through the recommendations on: • The independent non-executive directors portion should not be less than half of the board (exclude the chairman) • New definition of independent non-executive directors that is independent in terms of: o Character and judgement	Higgs Committee

		○ Last five years' former employment ○ Last three years' material business relationship ○ Payments granted other than directors' fee ○ Close family ties with advisers, directors or senior employees ○ Significant links with other directors ○ Significant shareholder ○ Serve the board more than 10 years • Senior independent non-executive directors' identification • Meeting attendance by senior independent non-executive directors • Meeting among non-executive directors • Independent non-executive directors as the chairman of nomination committee • Non-executive directors' positions and chairman of a FTSE 100 company • Separation of CEO and chairman • Non-executive directors in not more than three committees • Induction programmes for new non-executive directors	
June 2003	DTI consultative paper – A Consultative Document: Rewards for Failure; Directors'	To provide a consultative document on directors' contracts, performance and severance payments and the linkage between all of the three aspects[18]	DTI

[18] Ibid.

	Remuneration – Contracts, Performance and Severance		
July 2003	The Combined Code	To review the codes of corporate governance and to provide a new set of codes as a response to Higgs Report	Financial Reporting Council (FRC)
October 2005	Revised Turnbull Guidance	To provide the guidance of internal control that has elements of sound system, relevant overtime and suitable to apply by each company[19]	FRC
June 2006	The Combined Code	• To permit the remuneration committee to be served by company's chairman. However, the chairman could not chair the said committee and the chairman should be independent of the chairman's appointment • To provide the shareholders a 'vote withheld' option on proxy appointment forms • To suggest the particulars of proxies that were lodged at general meetings where votes were taken based on a show of hands to be published on the companies' websites	FRC
June 2008	The Combined Code[20]	• To allow an individual to chair more than one FTSE 100 company • To allow the company chairman (only if independent on appointment) of listed companies outside the FTSE 350 to sit on the	FRC

[19] See *Financial Reporting Council Internal Control Revised Guidance for Directors on the Combined Code October 2005* *http://www.frc.org.uk/documents/pagemanager/frc/Revised%20Turnbull%20Guidance%20October%202005.pdf* [Accessed 13 May 2008].

[20] Financial Reporting Council (2008) The Combined Code on Corporate Governance. Available from: *http://www.frc.org.uk/documents/pagemanager/frc/Combined_Code_June_2008/Combined%20Code%20Web%20Optimized%20June%202008(2).pdf* [Accessed 12 October 2009].

		audit committee	
November 2009	Walker Review 2009[21]	To suggest measures to improve corporate governance of banks and other financial entities, particularly on risk management	Walker Committee
December 2009	2009 Review of The Combined Code: Final Report[22]	• To revise The Combined Code and to rename it as *The UK Corporate Governance Code*. This code will apply to the reporting periods beginning on or after 29 June 2010. • To implement some of the recommendations in the Walker Review to all listed companies	FRC

The first code of corporate governance in the U.K. was developed by the Cadbury Committee, which was established in May 1991. The committee was established due to several underlying problems related to accounting standards, business controls and competitive pressures on both companies and auditors (Committee on the Financial Aspects of Corporate Governance, 1992). In 1992, the committee produced a report and code on the best practice of corporate governance, namely *Report of the Committee on the Financial Aspects of Corporate Governance* (*"The Cadbury Report"*, 1992) and *Report of the Committee on the Financial Aspects of Corporate Governance the Code of Best Practice* (*"The Cadbury Report Code"*, 1992) respectively. The report concentrates on the accountability and risk management aspect of corporate governance with a central objective of reinforcing director integrity and board effectiveness in promoting good quality and reliable financial information

[21] Walker, D. (2009) *A Review of Corporate Governance in UK Banks and Other Financial Industry Entities: Final Recommendations.* Available from: http://www.hm-treasury.gov.uk/d/walker_review_261109.pdf [Accessed 7 April 2010].

[22] Financial Reporting Council (2009) *2009 Review of the Combined Code: Final Report.* Available from: http://www.frc.org.uk/images/uploaded/documents/2009%20Review%20of%20the%20Combined%20Code%20Final%20Report1.pdf [Accessed 7 April 2010].

(Demirag, Sudarsanam and Wright, 2000). This particular objective provides the insight into the importance of financial reporting in corporate governance, especially in ensuring the accountability function of the executives.

However, the report was criticised due to its initial shortcomings in the ad hoc process and lack of enforcement mechanism that fails to provide a legislative requirement to which a company should adhere (Dewing and Russell, 2000). The shortcomings, together with a further emphasis on the importance of the good practice of corporate governance in the U.K., led to the establishment and publication of subsequent committees and reports. Demirag *et al.* (2000) and Keasey *et al.* (2005) chronologically summarise the development of these codes until the publication of the *Combined Code on Corporate Governance* in July 2003. Consequent to the establishment of the Cadbury Committee, The Study Group on Directors' Remuneration ("The Greenbury Committee"), which was established in January 1995 at the request of the U.K. government, produced *Greenbury Report Code of Best Practice* (*"The Greenbury Report"*, 1995). The report mainly concentrates on procedures relating to directors' remuneration. Three months after this publication, The Committee on Corporate Governance ("The Hampel Committee") was established in November 1995 with the aim of reviewing the implementation of the Cadbury and Greenbury Reports. *Committee on Corporate Governance: Final Report* (*"The Hampel Report"*, 1998) recommends a long-term view of the employment of institutional investors (Webb, Beck and McKinnon, 2003). Then, in 1998, *The Combined Code on Corporate Governance* was published to combine the Hampel, Greenbury and Cadbury Codes. Next, a revised combined code, *The Combined Code on Corporate Governance 2003*, was published in response to the criticism of *Review of the Role and Effectiveness of Non-Executive Directors* ("*Higgs Report*", 2003) about the function and effectiveness of non-executive directors. In recent years, the code was revised to *The Combined Code on Corporate Governance 2006* (Mallin, 2007) and *The Combined Code on Corporate Governance 2008* (Financial Reporting Council, 2008). This code is then revised in 2009 to consider recommendations in *Review of Corporate Governance in UK Banks and Other Financial Industry Entities*, i.e. "*Walker Review*" (Walker,

2009) and the revised code is named *UK Corporate Governance Code* (Financial Reporting Council, 2009).

In short, all the reports and codes are basically responding to the agency problem specifically in protecting the interest of the owners or shareholders of companies. In addition to the corporate governance requirements, studies of the agency problem also highlight the role and the effectiveness of corporate governance mechanisms in ensuring the objective of shareholders' wealth maximisation (for example Jensen and Meckling, 1976; John and Senbet, 1998; Demirag *et al.*, 2000; Goergen, Manjon and Renneboog, 2005). The said mechanisms include internal and external mechanisms.

3.3 Corporate Governance Mechanisms

Hart (1995) discusses corporate governance mechanisms as comprising board of directors, proxy fights, large shareholders, hostile takeovers and financial structure. In terms of internal and external mechanisms, Demirag *et al.* (2000) explain the internal mechanisms as consisting of board composition, managerial ownership and non-managerial large shareholdings (inclusive of institutional shareholding) while external mechanisms consist of a statutory audit, the market for corporate control manifested in hostile takeovers and stock market evaluation of corporate performance. Further, Weir *et al.* (2002), in investigating the impact of internal and external mechanisms on the performance of large U.K. public companies, refer to board structure, board monitoring, committee structure, director quality, director shareholdings, debt financing and institutional shareholdings as internal mechanisms while the market for corporate control, which is the threat of a takeover, is an external mechanism. In addition to the above-mentioned internal mechanisms, John and Senbet (1998) further specify corporate governance functions of the board of directors based on the monitoring function and board objectives; board composition, which is outside directorship and board independence; board size and committee structure, which is audit, compensation, nominating and productivity committees; and compensation

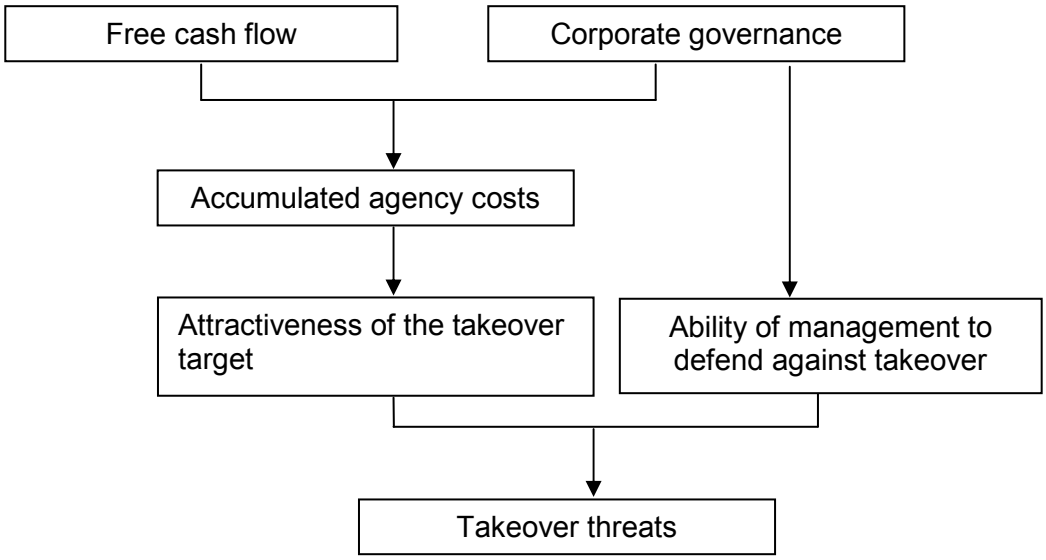
structures. The effectiveness of these mechanisms in mitigating agency problems is discussed in the following two sub-sections.

3.3.1 External Mechanisms

Denis and McConnell (2003), in a research survey about international corporate governance, highlight that the market for corporate control and the legal or regulatory system are the main external corporate governance mechanisms in mitigating agency problems. The external mechanisms are said by the authors to interfere particularly in the case where the internal mechanisms are significantly unsuccessful in playing the governance role.

A hostile takeover is regarded *"as external mean of removing managers upholding stakeholder claims"* (Shleifer and Summers, 1988: 15). Cash flow theory explains that the occurrence of takeovers in disciplining the management is instigated by the breakdown of internal control processes in firms that have a significant level of free cash flows and policies that lead to a waste of resources (Jensen, 1986). The flow of takeover threat is explained by Gibbs (1993), as depicted by the figure 3.2.

Figure 3.2
Flow of Takeover Threats



Takeover, as an effective mechanism, could be observed when the actual firm value is sufficiently lower than its potential value for it to create an incentive for outsiders to take over the control of the firm (Denis and McConnell, 2003). This is also explained by O'Sullivan and Wong (1998) where *"the greater is management's departure from value-maximisation, the larger the potential gain for any acquirer and consequently the more vulnerable the incumbent management team is to takeover bid"* (O'Sullivan and Wong, 1998: 19). Thus, the takeover threats will then provide an incentive to the managers to increase the firm value so as to ensure that the deviation of the actual value from the potential value will not be too high (Denis and McConnell, 2003). The differences in the values motivate the acquirer since it would provide a large gain. Hart (1995) explains that hostile takeover is a powerful mechanism in disciplining the management due to the large rewards available to those parties who are able to identify underperforming companies. In addition to the rewards, takeover is also motivated by several other factors comprising recovery of agency costs, market power, economies of scale and scope, underpriced resources and potential costs of takeovers (Gibbs, 1993). However, it should be noted that takeover is an expensive mechanism due to the leverage incurred in performing a takeover. Despite this cost, takeover might be preferred by some shareholders due to the temporary nature of the costs. This is in line with free cash flow theory in which the debt created in a hostile takeover (or takeover defence) should not be everlasting as the benefits of an expansion program and sales of valuable divisions could be used to reduce the debts (Jensen, 1986).

In terms of the implications of a takeover activity, Firth (1980), in examining merger and takeover activity in the U.K. between 1969 and 1975, finds evidence of the relationship between mergers and takeover activities, and shareholder returns. The results indicate a positive effect of mergers and takeovers for the acquired firms' shareholders as well as for the acquiring companies' managers. In contrast, the results show a negative effect of mergers and takeover on the acquiring companies' shareholders. The author signifies the results of the research as being due to motivation for the takeover activity which is to maximise management utility instead of maximising shareholder wealth.

Short, Keasey, Hull and Wright (1998) claim that U.K. and U.S. governance practices rely on the takeover market which is categorised as one of the market-based solutions to the agency problem, in which takeover is treated as a dominant and primary tool in both countries, particularly to remove underperforming management. However, the authors, based on previous research studies, identify several arguments on the role of hostile takeover in a governance process. The first argument is related to the deviation of managers' focus from the long-term benefit to the short-term gains. Stein (1988), in examining the argument about the damage that is caused by takeover pressure, highlights that the caveat to a takeover being an effective governance mechanism occurs in the case where the shareholders are inadequately informed about the temporary fall in earnings which then leads to an undervaluing of stock and thus, the possibility of the occurrence of takeover at an unfavourable price is higher. This is led by the attention of management to the short-term objective as highlighted by Short *et al.* (1998). Stein (1988) further explains that the said action of the management depends on several factors that include shareholders' attitudes and beliefs, inside information of corporate raiders, and managers' commitment to holding on to their control of the firms.

Secondly, takeover might be inefficient since, from the point of view of the bidding firms, there is a potential for the managers to make use of takeover in pursuing their own purposes and representing the strategic objective of the bidder instead of focusing on the managerial failure of the target firms. This is also highlighted by Denis and McConnell (2003) who state that the takeover market might negatively affect the acquiring company's shareholders if the managers are more focused on maximising their business empires which will then lead to a waste of corporate resources by overpaying for acquisition instead of returning cash to the shareholders.

Thirdly, takeover can be criticised in terms of the opportunity for the new shareholders to renege on implicit contracts with stakeholders. This is discussed in detail by Shleifer and Summers (1988) who argue that takeover effectiveness could be impaired by the shareholders if they renege on the contracts *ex-post* and

this could drive the phenomenon of wealth redistribution from stakeholders to the shareholders which then leads to a deterioration of trust in the corporation.

These negative consequences of takeover are due to the "free-rider" problem, competition from other bidders (inclusive of minority shareholders) and competition from incumbent management (Hart, 1995). Thus, due to the above-mentioned criticisms, the effectiveness of the takeover market mechanism in disciplining the management could be debated. In fact, due to the takeover issues, takeover could possibly create more governance problems than solutions which then suggests the applicability of legal action in limiting the prevalence of takeovers (Short *et al.*, 1998).

However, the effectiveness of the legal or regulatory system is also arguable where Jensen (1993) regards the legal or regulatory system as a blunt instrument in effectively handling the wasteful managerial problem. There are three reasons for this: firstly, inconsistency of law in governance around the world; secondly, inconsistency of enforcement of the law around the world; and thirdly, the substitute mechanisms for poor investor protection (La Porta, Lopez-de-Silanes, Shleifer and Vishny, 1998). Thus, given the pros and cons of external mechanisms, internal mechanisms could be another alternative in mitigating agency problems.

3.3.2 Internal Mechanisms

The internal corporate governance mechanisms that will be discussed in the following sections consist of ownership monitoring and board of directors.

3.3.2.1 Ownership Monitoring

Jensen and Meckling (1976) regard the ownership structure as a corporate governance mechanism since it could reduce the agency problem with reference to stock ownership by management where such ownership could moderate management behaviour in favour of the shareholders as managers with equity

ownership tend to maximise their wealth as owners, which is in line with other shareholders' wealth objectives. This is aligned with the findings by Florackis (2005) using 962 non-financial U.K.-listed firms for a sample period of 1999-2003, where the percentage of shares held by executive directors is found to be related to company performance.[23] However, an excessive level of managerial ownership may not be effective as it tends to lead to greater agency problems, for example, insufficient efforts, private benefits emphasis and entrenchment at the expense of other shareholders (Florackis, 2008).

In addition to the management stock ownership, large ownership is another important characteristic of ownership that could also play an essential role in ensuring effective corporate governance. Large shareholders are normally associated with institutional shareholders. In other words, management opportunism can be constrained by the existence of institutional ownership monitoring (Firth, Tam and Tang, 1999). It should be noted that, in the U.K., the ownership structure is dispersed instead of concentrated. This is highlighted by Faccio and Lang (2002) who state that widely-held companies are more important in the U.K. as well as in Ireland as compared to companies in continental Europe. This phenomenon is due to the existing takeover code and the law that protects the interests of minority shareholders, which leads to a constraint on building controlling stakes (Florackis, 2005). In explaining the role of large investors in protecting small investors, Shleifer and Vishny (1997) draw attention to large shareholders and large creditors as the forms of concentrated ownership.

Hart (1995) highlights the role played by large shareholders in lessening the agency problem in terms of management-monitoring and proxy fight-launching in which such types of shareholders in the U.K. are referred to as institutional shareholders while, in Germany and Japan, the large shareholders are typically banks. However, the role of large shareholders in reducing the agency problem could be debated since the large shareholders may run the company in their own

[23] The author tests the relationship by means of four different models of which models 1 and 2 are non-linear and models 3 and 4 are linear models. The non-linear models are the models that exclude any interaction term.

interests and they might use their power to increase their wealth at the expense of the other shareholders, since their ownerships are less than 100 percent (Hart, 1995). In fact, in the U.K., the institutional shareholders are found to be passive and do not behave in a manner that maximises the shareholders' interests (Goergen and Renneboog, 2001). In addition, Shleifer and Vishny (1997) stress the importance of sophisticated legal systems in ensuring the effectiveness of large shareholders because, with weak courts, the large shareholders are likely to gain outright majority ownership.

The functions of large shareholders' ownership in agency problems can also be explained in relation to owner-controlled firms. The said ownership type is highlighted as being more effective in reducing any conflict of interest compared to management-controlled firms since owner-controlled firms tend to hold a large portion of companies' equity and hence constitute large shareholders, as defined by Short (1994) that the firm is owner-controlled if *"a dominant stockholding interest owns specified fraction of the firms"* (Short, 1994: 207).

In addition to the above-mentioned types of ownership, ownership by non-executive directors could also perform the role of protecting the welfare of the shareholders since these directors are highly related to director independence. This is in line with the finding by Byrd and Hickman (1992) that independent outside directors monitor a firm's decision on the behalf of shareholders during the acquisition process of tender offer bids which were made from 1980 through 1987. In addition, Vafeas and Theodorou (1998) explain that ownership by non-executive board members could be positively related to the firm value due to the enhancement of director independence.

3.3.2.2 Board of Directors

As discussed above, besides ownership structure, the board of directors is another internal mechanism in effective corporate governance. Fama (1980) views the board of directors as *"a market-induced institution, the ultimate internal monitor of the set of contracts called firm, whose most important role is to scrutinize the highest decision makers within the firm"* (Fama, 1980: 294). As

an internal mechanism, the main function of the board of directors is to monitor the executive activities. This is in line with The Cadbury Report "*The Financial Aspects of Corporate Governance*" in which the board of directors is said to be responsible for the governance of the company of which their responsibilities include *"setting the company's strategic aims, providing the leadership to put them into effect, supervising the management of the business and reporting to shareholders on their stewardship"* (Committee on the Financial Aspects of Corporate Governance, 1992: Para 2.5). Beaver, Davies and Joyce (2007), in discussing the issues and contexts of the leadership role of the board of directors, highlight two main dimensions of boards' activity which consist of setting the strategic direction and evaluating company performance.

In relation to agency theory, Zahra and Pearce (1989) explain the board of directors as an ultimate mechanism of corporate control since the boards perform a critical function of monitoring and rewarding the executive. Further, Zahra and Pearce (1989) outline the board of directors' attributes as composition, characteristics, decision process and structure in which board composition concerns the board size and type while the characteristics are directors' experiences, functional background, independence, stock ownership and variables that could influence directors' interest in carrying out the tasks. The decision process is referred to as the decision-making process and styles of the board while the board structure is about the board organisation, division of labour among standing committees and the efficiency of its operation. The next two sections of this chapter will discuss the importance and effectiveness of board composition and board structure in corporate governance.

3.3.2.2.1 Board Composition

Board composition, as seen in the above discussion, comprises board size and board type. Previous researchers have measured board size as the number of directors on the board (for example Florackis, 2005; Marchica and Mura, 2005; Brick, Palmon and Wald, 2006). Marchica and Mura (2005), in analysing the evolution of direct and ultimate ownership of U.K. non-financial listed firms,

document that board size is positively related to firm size. In terms of the effectiveness of corporate governance by board size, previous studies find conflicting results on the relationship between board size and corporate performance proxies (for example Florackis, 2005; Brick *et al.*, 2006). Brick *et al.* (2006) find a significant negative relationship between the number of directors with directors' cash compensation and total compensation. In other words, the higher the board size, the lower the compensation per director and this exhibits better governance as it shows lower agency costs incurred in monitoring management opportunism. In contrast, Florackis (2005) finds a negative relationship between the number of directors on the board and performance, measured by Tobin's Q, among U.K. publicly-traded firms. Zahra and Pearce (1989) highlight three reasons for the positive impact of board size on corporate performance, specifically a company's financial performance. Firstly, a larger board size is assumed to have a variety of educational and industrial backgrounds and skills. Subsequent to the educational and industry expertise, the larger board size will have varieties of perspective in improving the decisions or activities of a company. Secondly, a larger board size would have a greater opportunity to secure resources and establish a favourable image for a company due to the choice of multiple aspects of the firm's environment, for example in terms of competition, product placement and supplier, a large board constitutes directors with various business experience and directors from various business environments who then create opportunities for a large business network and thus contribute to a positive effect on the company's image among the companies, at least within the same industry. Thirdly, with a larger board, there will be a constraint upon the CEO domination on the board and this in turn will lead to an improvement by the board in exercising its power in running the company.

Consistent with Brick *et al.* (2006), in a study of the association of agency costs and corporate governance mechanisms using U.K. data, Florackis (2008) explains that board size could be negatively related to the firm's performance due to difficulties in coordination, communication and decision-making as compared to smaller boards. This is in line with De Andres, Azofra and Lopez (2005), who find negative association between firm value and board size in OECD countries.

De Andres *et al.* (2005) discuss the negative relationship as being due to the disadvantages of large board size that are poorer coordination, flexibility and communication.

In respect of the influence of the type of board of directors in corporate governance, the explanation can be attributed to three types of boards of directors that are inside directors, independent directors, and interlocking directors. Inside directors can be referred to as executive directors who are working in the managerial team. In their descriptive analysis, while investigating an association of board and ownership structure with cross-sectional variations in CEO compensation, Core, Holthausen and Larcker (1999) define inside directors as *"the percentage of the total directors who are insiders (i.e., directors who are managers, retired managers, or family members of present or past management)"* (Core *et al.*, 1999: 382). From the said study, Core *et al.* (1999) find a negative association between CEO compensation and the percentage of inside directors. This shows that inside directors play a significant role in corporate governance, specifically in executive compensation determination.

However, in the case of firm value, Yeh and Woidtke (2005) find contradictory evidence on the effectiveness of the insiders in which companies whose boards are dominated by members affiliated with the controlling family are negatively related to firm value. This is due to shareholders' perception that the inside directors are more interested in decision-making that is related to their interests instead of firm value.

In contrast to the inside directors, the level of the independent directors would be an effective governance mechanism due to the monitoring role played by the independent directors. In explaining what constitutes an independent director, the National Association of Pension Funds (NAPF)[24] highlights that *"an individual*

[24] "*The main UK body representing the interests of the occupational pensions movement and provides representation and other services for those involved in designing, operating, advising and investing funds of pension schemes in the UK. Because of the voting power that members collectively possess as institutional investors, the NAPF's views are important to UK public companies on matters such as voting"* Glossary item: Practical Law Company (2008) *National Association of Pension Funds (NAPF)*. Available from: http://pensions.practicallaw.com/9-107-6297 [Accessed 30 April 2008].

director's integrity is highly relevant and the level of a director's independence can vary, depending on the particular issue under discussion. In assessing the independence of a non-executive director the assumption is that the individual is independent unless, in relation to the company, the director:

- *Was formerly an executive*
- *Is, or has been, paid by the company in any capacity other than as a non-executive director*
- *Represents a trading partner or is connected to a company or partnership (or was prior to retirement) which does business with the company*
- *Has been a non-executive director for nine years - i.e. three 3 year terms*
- *Is closely related to an executive director*
- *Has been awarded share options, performance related pay or is a member of the company's pension fund*
- *Represents a controlling or significant shareholder*
- *Is a new appointee selected other than by a formal process*
- *Has cross-directorships with any executive director*
- *Is deemed by the company, for whatever reason(s), not to be independent"*

(NAPF's Shareholder Affairs Sub-Committee, 2002: 21)

Previous researchers relate board independence to the proportion of non-executive directors that serve the board (for example Weir *et al.*, 2002; Dulewicz and Herbert, 2004; Linck, Netter and Yang, 2008). Non-executive directors are *"outside directors who monitor the decisions made by the executive directors"* (Laing and Weir, 1999: 458). In other words, non-executive directors are outside directors that play a role in improving a board's monitoring quality through their independent characteristics (Vafeas and Theodorou, 1998).

As outside directors are claimed to be related to board independence, in contrast to inside directors, outside directors could positively affect corporate governance (see Core *et al.*, 1999). Domination by outside directors is essential for corporate governance effectiveness (Zahra and Pearce, 1989) since, with their domination, they will be more powerful in the decision-making process while protecting shareholders' interests, which leads to a minimum conflict of interest. In addition, the outside directors could create links with a variety of business

environments since they have a wide range of expertise, personal relationships and professional personal reputations (Zahra and Pearce, 1989). However, Weir and Laing (2000) find negative and simultaneous relationships between outside directors' representation and accounting performance among U.K.-quoted companies during 1992 and 1995 in which return on asset is the proxy for firm performance. The authors interpret the finding as the sensitivity of the results towards the choice of performance measure. In the case of the influence of independent directors on executive compensation determination, the independent directors have a bargaining advantage over the CEO in which there will be an alignment between the compensation and shareholders' objectives (Ryan and Wiggins, 2004).

Another type of director who could influence the effectiveness of corporate governance is the interlocking director or reciprocal director. Mizruchi (1996) refers to an interlocking directorate as being *"when a person affiliated with one organization sits on the board of directors of another organization" (Mizruchi, 1996: 271).* Similarly, a director is also considered as interlocked if he/she sits on the board of directors of an organisation and concurrently affiliated with another organisation. Brennan and McDermott (2004) highlight several roles of interlocking directors that are mechanism for collusion and cooperation; facilitating the companies in controlling and monitoring others; and providing information on business practices. However, interlocking directors could negatively affect the effectiveness of corporate governance since they are busy with several boards. This is also explained by previous researchers as a multi-directorship where a director sits on more than one board (O'Neal and Thomas, 1996; Conyon and Muldoon, 2006; Haniffa and Hudaib, 2006). The multi-directorship is further highlighted by the researchers as reflecting social networks, multiple backgrounds and increasing directors' commitment. In other words, the effectiveness of directors who serve too many boards would decrease unless they can perform their tasks adequately (Core *et al.*, 1999). As poor performance is correlated with excess compensation (Brick *et al.*, 2006), interlocking directors tend to receive high compensation (Core *et al.*, 1999). This can be observed from the findings of a compensation and performance study by Core *et al.* (1999) which shows that the highly-paid directors are more likely to

be busy and to serve on interlocking boards. However, the authors observe a different direction of association between CEO compensation and the percentage of outside directors who are busy, which is defined as serving on three or more other boards, or six or more boards, if retired. This could be due to the adequate task performance by the directors.

3.3.2.2.2 Board Structure

In addition to the size and type of board of directors, the structure of the board also plays an essential role in monitoring the effectiveness of corporate governance, since board structure is regarded by previous researchers as a major contributor to a company's financial performance (Zahra and Pearce, 1989). The contribution is explained as the ability of an efficient board structure to facilitate directors' involvement in two aspects: firstly, in shaping the firm's mission and strategies and, secondly, in strengthening the directors' position relative to the CEO (Zahra and Pearce, 1989). The effectiveness of an efficient board structure is further highlighted by Zahra and Pearce (1989) as relating to a duality role or dual leadership in which dual leadership is interpreted as *"different individuals hold the CEO and chair positions"* (Zahra and Pearce, 1989: 322). Dual leadership is claimed by the authors to imply a more positive impact on the companies' performance due to the availability of appropriate checks and balances. Separation between CEO and chairman is likely to be effective since a non-executive chairman would provide more objective opinions, effective decisions and intentions to promote shareholders' interests (Weir and Laing, 2001). Additionally, Dahya and Travlos (2000) highlight that the separation of the CEO and chairman positions could increase the independence of the board and provide outside expertise.

Dual leadership is quite common in the U.K. as compared to the U.S. (Vafeas and Theodorou, 1998; Dahya and Travlos, 2000). Despite the above-mentioned effectiveness of duality leadership in mitigating agency conflict, previous researchers using U.K. data find contradictory results about the effect of separation of CEO and chairman on firm performance (see Vafeas and

Theodorou, 1998; Laing and Weir, 1999; Weir and Laing, 2000; Weir and Laing, 2001; Florackis, 2005). In contrast to dual leadership, unity leadership is claimed by previous researchers to be unable to play an effective role in corporate governance since the combination of both positions leads to self-checking of the CEO's work and a lack of independence in the boardroom (Vafeas and Theodorou, 1998). However, as discussed in Section 3.1.4 on stewardship theory, unitary leadership could positively contribute to a company since the person who occupies both chairman's and CEO's positions could exhibit greater understanding and knowledge about the company's operating performance (Weir *et al.*, 2002). Dahya and Travlos (2000) discuss the positive argument for unitary leadership's effect on corporate performance with reference to clear-cut leadership and lower information costs. Clear-cut leadership is referred to as the concentration by the leader on the achievement of the company's target while lower information costs is referred to as the lower costs incurred if the same person is appointed to both CEO's and chairman's positions as compared to different persons for both positions.

The effectiveness of a board structure could also be captured by way of board committees which consist of audit committee, remuneration committee and nomination committee. Board committees are the committees that concentrate on specific tasks, in which audit committee normally deals with disclosure quality, the remuneration committee is responsible for executive remuneration and the nomination committee is accountable for the determination of appointed directors' quality (Vafeas and Theodorou, 1998). In ensuring the effectiveness of a board structure, Hilb (2005) suggests two different structures of committees on the board that are an integrated audit and risk management committee, and an integrated board management committee. The former is in charge of audit and risk while the latter is for nomination, feedback, remuneration and development of board and top management.

The existence of board committees alone is not sufficient to ensure the effectiveness of corporate governance because independence of the committees is an important feature of an effective committees' monitoring and control (Padgett and Shabbir, 2005). This is due to its ability to exercise independent

decisions and judgement as highlighted by Weir and Laing (2001). Previous researchers use various measures of the independence of board committees including, for example, the number or percentage of independent directors on the committee, the absence of any former CEO on the board, and duality (Bruno and Claessens, 2007). In addition, independent non-executive directors could also exhibit independence because non-independent non-executive directors have less ability in exercising independent judgement in the committee which leads to less effective control (Weir and Laing, 2001).

The importance of audit and remuneration committees in governing financial disclosure and remuneration decisions has been highlighted by previous studies (for example, Conyon and Peck, 1998a; Laing and Weir, 1999; Weir and Laing, 2001; Ezzamel and Watson, 2002; Collier and Mahbub, 2005). An effective audit committee benefits the company in terms of enhancing links between the board and both external and internal auditors which in turn assists the board to meet its statutory and fiduciary responsibilities (Weir *et al.*, 2002). The advantage of an effective audit committee is also stressed in The Cadbury Report "*Financial Aspects of Corporate Governance*" where an audit committee could *"offer added assurance to the shareholders that the auditors, who act on their behalf, are in position to safeguard their interest"* (Committee on the Financial Aspects of Corporate Governance, 1992: Para 4.34).

Similarly, the remuneration committee benefits the company as it exhibits the possibility of a linkage between pay and performance from the shareholders' perspective as explained in *Code of Best Practice* by the Greenbury Committee where "*to avoid potential conflicts of interest, board of directors should set up remuneration committees of non-executive directors to determine on their behalf, and on behalf of the shareholders, within agreed terms of reference, the company's policy on executive remuneration and specific remuneration packages for each of the executive directors, including pension rights and any compensation payments"* (Study Group on Directors' Remuneration, 1995: Para A1). The benefits of audit and remuneration committees are in line with the findings of research by Laing and Wier (1999) in which, using 115 randomly selected, largest quoted U.K. companies, the researchers find that companies that

had audit and remuneration committees in the sample years of 1992 and 1995 returned a higher performance than other companies. Similarly, in investigating the extent of the relationship between recommendations made by the Cadbury Committee and U.K. company performance, Weir and Laing (2000) find that, for the sample year of 1995, there is a positive association between remuneration committee existence and firm performance measured by market returns, which is the percentage of change in the share price over the financial year. Further, Ezzamel and Watson (2002), in a study of pay comparability across and within U.K. boards, explain that a remuneration committee demonstrates an important corporate governance function as the committee is essential to the executive pay-setting process. However, in the case of the relationship between the independence of the boards and firm performance, Vafeas and Theodorou (1998) find an insignificant relationship between the percentage of non-executive directors in the remuneration committee and firm performance in the U.K.

In addition to audit and remuneration committees, to ensure the effectiveness of corporate governance of a company, a nomination committee is also a significant internal corporate governance mechanism. In terms of the members of the committee, the Cadbury Committee suggests a majority of non-executive directors on the board while it is suggested that the chairmanship of the committee be held by either the chairman of the company or a non-executive director (Committee on the Financial Aspects of Corporate Governance, 1992). The committee's role is to *"seek out, screen and interview potential candidates for executives and non-executive positions, often assisted by outside recruitment agencies"* (Pass, 2004: 57). This is also stressed in the Cadbury Committee Report where the nomination committee has *"the responsibility of proposing to the board, in the first instance, any new appointments, whether executive or non-executive directors"* (Committee on the Financial Aspects of Corporate Governance, 1992: Para 4.30). In short, the nomination committee demonstrates its function by way of ensuring the quality of appointed directors (McKnight and Weir, 2009).

Although the importance of the nomination committee as a corporate governance mechanism is generally accepted, the adoption of the committee among U.K.

publicly quoted companies is slower as compared to the adoption of audit and remuneration committees (McKnight and Weir, 2009). This is related to agency costs in which the relationship of the existence of the committee with agency costs is found to be positive by McKnight and Weir (2009), where the agency costs are measured using three different proxies that are assets-to-sales ratio; interaction of free cash flow and growth prospects; and the number of acquisitions undertaken by an individual firm. Similarly, in the case of the independence of the nomination committee, Pass (2004) finds that only 18 companies (36 per cent) from a sample of 50 large U.K. companies from the FTSE-100 listing exhibit non-executives as the entire membership of the nomination committee which is the lowest proportion of non-executive directors in terms of committee composition as compared to remuneration committee (100 percent) and audit committee (94 percent).

3.4 Conclusions

This chapter reviews corporate governance literature with the main aim of discussing corporate governance development in the U.K. The chapter begins with a discussion on the theories and approach of corporate governance. Despite the availability of alternative theories to the agency theory, the remaining sections of this chapter are constructed in light of the managers-shareholders conflict, since agency theory has dominated the previous corporate governance research. Upon realising the importance of corporate governance-monitoring in ensuring the effectiveness of corporate governance, the next two sections of this chapter highlight corporate governance requirements in the U.K. and corporate governance mechanisms respectively. In terms of internal corporate governance mechanisms, this chapter concentrates on ownership-monitoring and the board of directors in which the former focuses on ownership structure while the latter pays attention to board composition and board structure.

Based on the above literature review, the effectiveness of the corporate governance mechanisms in mitigating the owners-managers conflict can be analysed based on two general categories: external and internal mechanisms.

External mechanisms include takeover and corporate governance rules and requirements while internal mechanisms include ownership structure and board of directors. Previous studies document mixed results about the effectiveness of corporate governance mechanisms on firm performance. Therefore, it can be concluded that each mechanism could imply both positive and negative consequences depending on managers' opportunism in the business environment. The relationships between corporate governance mechanisms and firm performance, inclusive of market performance and accounting performance, are studied by researchers using several sources of data, for example, companies' annual report and corporate governance database. Thus, as the information on these mechanisms from these sources can also be scrutinised by shareholders, the mechanisms are found, by previous studies, to be interrelated with firms' market value, a direct measure of shareholders' valuation. This, as discussed in Chapter 2, could be due to the ability of corporate governance mechanisms to influence shareholders' attitude towards risk. Therefore, the following chapter, in light of this chapter and Chapter 2, will discuss the various effects of tax planning and corporate governance on firm value.

Chapter 4

Various Effects of Tax Planning and Corporate Governance on Firm Value

This chapter focuses on tax planning frameworks and corporate governance mechanisms, and examines their relationship with firm value. The underlying justification of the effects of tax planning and corporate governance on firm value is related to moral hazard which basically explains the conflict between principal and agent due to information asymmetry (Desai and Dharmapala, 2008). This is explained in detail in Chapter 2, specifically in the section on corporate governance as a moderating factor of tax planning activities. Thus, as far as the principal-agent problem is concerned, corporate governance mechanisms or procedures are supposed to reduce the scope of moral hazard which in turn increases the wealth of the shareholders that may be observed through firm value. Therefore, this chapter aims to review the available literature that explains the implications of tax planning and corporate governance on the firm value of a company.

4.1 Shareholders' Perspective and Firm Value

The Companies Act of 2006 specifies a legal requirement of directors to act in the best interests of the shareholders. Specifically, Section 172 (1) of the Companies Act 2006 requires directors to manage the business in such a way as to ensure the successfulness of the company for the benefit of the shareholders (Freshfields Bruckhaus Deringer, 2006; Aird, 2009; Dunne, Collins and Riley, 2009; Edge and Mulligan, 2009). The same provision requires consideration of other stakeholders in its "enlighten shareholders' value" corporate governance approach (Keay, 2007; Cerioni, 2008). Therefore, the effectiveness of the company's management can be measured by the market value of the company as the market value measures shareholders' value or wealth. It indicates shareholders' perspective on the performance of the management as it could represent the shareholders' expectation or assessment of the companies' general performance (Rockmore and Jones, 1996). Consequently, stock market valuation or shareholders' valuation is frequently treated as an efficiency criterion in finance and legal writings on corporate governance (Becht, Bolton and Roell, 2005).

4.1.1 Market Value of Equity in Firm Valuation

A shareholder's financial interest can be measured in terms of their involvement in a company, i.e. the market value of the shareholding. If the markets are efficient, the managers should maximise the market value of the firm's share, if they are to act in the best interest of the shareholders. Several researchers use share price or market value of equity as a proxy for firm value (for example Bao and Bao, 1989; Horton, 2008) since changes in security price could be inferred as market participants' prediction about the future earnings of a company (Beaver, Lambert and Morse, 1980). According to Beaver *et al.* (1980), there are three reasons why the share price may reflect future earnings information. The first reason is related to the availability of short time interval in viewing the annual earnings (for example quarterly, monthly and daily) which will then allow the share price to extract information about the pre-aggregated earnings series.

Secondly, share price could be a remedy for limitations of current earnings in reflecting the events that effect future earnings. Finally, share price could reflect information in the case of earnings as a compound process that involves several stochastic variables.

4.1.2 Efficient Market Hypothesis (EMH)

The relationship between the share price and relevant information is explained by the EMH. The EMH explains share price movement behaviour as reflecting relevant available information in which the market is said to be efficient when the share price "fully and immediately" reflects the information. This is expressed by Fama (1970) where *"a market in which the prices always "fully reflect" available information is called efficient"* (Fama, 1970: 383). In addition, Fama (1970) provides three conditions for capital market efficiency: firstly, no transaction cost, secondly, all available information is obtained without cost and thirdly, all market participants agree about the effects of current information on current and future prices. An efficient market could be categorised as "strong form", "semi-strong form" or "weak form", which basically explains the amount of impounded information of share price movement. That is fully reflecting all information for "strong form", efficiently reflecting all publicly available information for "semi-strong form" and reflecting only historical price information for "weak form" (Fama, 1970). The EMH has been widely and extensively researched across disciplines and countries. Although the development of the theory started long ago, that is, since the 16th century (Sewell, 2008), it is still found to be relevant in explaining share price movement. This is documented by Malkiel (2005) in a study that investigates reflections on EMH for a 30-year-period in which the U.S. market is found to impound all publicly available information. Similarly, previous U.K. studies (for example Hon and Tonks, 2003; Kenourgios and Pavlidis, 2004; Al-Twaijry, 2006) also find that EMH is relevant in explaining U.K. stock market behaviour from various aspects, for example forecasting, earnings and returns. In terms of EMH form, the U.K. stock market is considered to have a semi-strong form efficiency (Solomon, 2007). Therefore, based on these studies, it can be

summarised that the market value of equity exhibits shareholders' valuation since it reflects the company's performance information available to shareholders in determining the firm value.

4.1.3 Other Measures of Firm Value

Besides share price, market-to-book equity ratio has also been used by previous researchers as a measure of firm value (for example Leech and Leahy, 1991; Short and Keasey, 1999; McConaughy, Matthews and Fialko, 2001; Pauwels, Silva-Risso, Srinivasan and Hanssens, 2004; Bhabra, 2007; Cheung, Connelly, Limpaphayom and Zhou, 2007). In addition, previous researchers also use Tobin's Q and excess valuation as proxies for firm value.

Tobin's Q is defined *"as the ratio of the market value of the firm to replacement cost of assets, evaluated at the end of the fiscal year of each firm"* (Allayannis and Weston, 2001: 249). The measure was developed by Tobin (1969) in discussing a general equilibrium to monetary theory. It is calculated by deflating the market value of the outstanding financial claims with the current replacement cost (Lewellen and Badrinath, 1997). In other words, Tobin's Q measures a firm value by scaling the market value of the firm's assets with the costs that need to be incurred to replace the asset at the current market price (Lewellen and Badrinath, 1997). However, due to difficulties in measuring the replacement cost of assets as claimed by Claessens, Djankov, Fan and Lang (2002)[25] and Thomsen, Pedersen and Kvist (2006), the researchers employ several formulas of Tobin's Q.[26] Tobin's Q is highly utilised as the market value of a firm in

[25] The authors explain that the difficulties are mainly due to the unavailability of data in calculating the replacement values.

[26] McConnell and Servaes (1990) compute Tobin's Q as the ratio of the market value of common stock plus the estimated market value of debt and preferred stock divided by the replacement value of assets. Morck, Shleifer and Vishny (1988) compute Tobin's Q as the ratio of firm's market value, defined as the sum of the actual market value of common stock and estimated market values of preferred stock and debt, the replacement cost of the firm's plant and inventories. Bhabra (2007) measures Tobin's Q as the ratio of the sum of market value of equity, liquidating value of preferred stock and value of short-term liabilities net of short-term assets plus the book value of long-term debt to book value of total assets. Desai and Dharmapala (2009) measure Tobin's Q as the ratio of the market value of assets, which is computed as the book value of assets, plus the market value of common stock, minus the book value of common stock, minus deferred tax expense, to the book value of assets.

corporate governance studies (Morck, Shleifer and Vishny, 1988; McConnell and Servaes, 1990; Allayannis and Weston, 2001; Bhabra, 2007; Desai and Dharmapala, 2009). This is due to the ability of Tobin's Q to reflect management performance as *"high Tobin's q suggests that a firm's managers have produced greater market value from the same assets"* (Bhagat and Black, 2002: 236). This is consistent with Lewellen and Badrinath's (1997) argument that the companies that exhibit Tobin's Q greater than "one" indicate effective use of scarce resources while, in contrast, companies that exhibit Tobin's Q lower than "one" demonstrate poor use of resources.

In terms of excess valuation[27], Pantzalis, Kim and Kim (1998) apply that particular alternative market valuation measure in investigating the link between firm performance and distributions of common shares between insiders, blockholders and institutions. The measure is developed by Thomadakis (1977) in conducting a value-based test of profitability and market structure. The authors claim that the use of excess valuation would not impair the comparability of the study with other studies that use Tobin's Q as the measure of firm value due to the close relationship between both measures (excess valuation and Tobin's Q).

Overall, based on the above literature, it can be concluded that market value of a firm can be appropriately measured by share price due to its ability to reflect future expected cash flow. However, with the concern of cross-sectional differences in size, alternative deflators can be used, as discussed subsequently.

4.2 Tax Planning and Firm Value

Tax planning is important to shareholders as it implies a reduction of the tax cost that significantly burdens the firms and shareholders (Chen *et al.*, 2010). However, shareholders might not favour the tax planning activities due to the potential non-tax costs embodied in the activities (Chen *et al.*, 2010). Thus, tax planning might affect firm value in both positive and negative directions since

[27] Excess valuation is computed as the ratio of the sum of market value of equity and book value of long-term debt minus book value of total assets, to sales (Thomadakis, 1977).

shareholders might value tax planning differently depending on their expectations. In cases where tax is considered a burden to a company, shareholders would positively value tax planning while, in contrast, shareholders might respond negatively if tax planning were viewed as a risk-related activity (see Slemrod, 2005; Chen *et al.*, 2010). As explained in Chapter 2, the risk related to tax planning is inclusive of risk of potential for greater moral hazard or managerial opportunism (Desai and Dharmapala, 2008; Desai and Dharmapala, 2009).

Tax planning could be valued by shareholders using ETR information, which could reflect tax planning activities and is publicly available for scrutiny by shareholders. This is consistent with Slemrod (2004), who argues that shareholders could discipline management by referring to the high ETR because of the potential detrimental effect on share prices. In fact, Swenson (1999), following anecdotal evidence, finds a negative association between ETR and share price. This could be due to the significant effects of long-term sustainable reduction in ETR on market capitalisation and shareholder value where it is claimed that a penny of tax saving could have a multiplying effect on the market value (Mintz, 1999).[28] Therefore, shareholders seem to weigh tax planning-related information in valuing firms. However, shareholders might incorporate the information about tax planning activities only if the information is considered to be "valid". Bauman and Shaw (2005) find that shareholders do not appear to fully impound the earnings implication of interim ETR into share prices. The authors interpret this as an indication that shareholders rely on audited information in the form of annual ETR as a measure of tax planning. This is consistent with several other researchers who document the positive implications of tax planning activities on firm value (for example Tiras and Wheatley, 1998; Amir and Sougiannis, 1999; Desai and Hines, 2002).

Tiras and Wheatley (1998) investigate whether firm valuation considers firms' ability to mitigate increases in tax rates or maintain tax savings. Using a sample

[28] Mintz (1999) specifically explains the incremental effect of ETR reduction on the market capitalisation by referring to S&P 500 companies in which a dollar of tax saving represents a full $28 of capital market.

of U.S. firms for the period 1980 to 1994, they find that the change in ETR is an important consideration in firm value in which the security market expects "strong" ("weak") firms to bear a relatively small (large) portion of the ETR increment.[29] In contrast, in the case of decreases in ETR, the "strong" ("weak") firms are expected to bear a greater (lesser) portion. The changes in the ETR are studied in terms of the effect of tax law changes.

The implication of tax planning could also be viewed from the aspect of deferred taxes on the carry forward of tax losses or net operating losses (NOLs). Amir and Sougiannis (1999) find that share prices respond positively to deferred taxes from losses being carried forward, that is tax deferral planning activities. In addition to tax planning via deferral, shareholders value permanent tax saving obtained by "inversions" (Desai and Hines, 2002). In investigating the determinants of corporate expatriation, Desai and Hines (2002) document that share price is positively associated with inversion announcement. In addition, as it is claimed that the heavily leveraged companies are more involved in inversion due to low tax rates in the foreign countries where they are operating, the authors also investigate the difference in the association between high- and low-leveraged companies. The results reveal that the share price of highly leveraged companies is more positively associated with inversion announcement as compared to other companies. This is interpreted by the authors as the shareholders valuing tax saving through allocation of interest expense.

Besides positive associations between tax planning and firm value, previous researchers also document the inverse relationship between ETR and share price. Abarbanell and Bushee (1997) find a negative relationship between annual changes of ETR and abnormal return in examining the underlying relations between accounting-based fundamental signals and security prices. The authors identify three possible reasons for the results. The first reason is related to the constraints on analysts' forecasts in conveying earnings information in the short

[29] The authors define "strong" firms as *"those firm-years that are ranked in the lower fifty percent of the distribution for the book-to-market ratio and in the lower fifty percent of the distribution for the earnings-to-price ratio. Firms-years are defined as "weak" when they are ranked in the upper fifty percent of the distribution for the book-to-market ratio and in the upper fifty percent of the distribution for the earnings-to-price ratio"* (Tiras and Wheatley, 1998: 22).

term, which leads to omission of value-relevant information in the forecast. The second reason is said to be related to the failure of the analysts' forecasts to completely impound the information in the fundamental signals and thus influence the investors' decision. The third reason is said to be related to analysts' underreaction to financial statement information which in turn influences the investors' general analysis. Similarly, Lev and Thiagarajan (1993), using a sample of U.S. firms from the period 1974 until 1988, find that stock return relates negatively to the annual changes in ETR. The authors indicate that this result could arise from a negative signal about the level of earnings persistence in which shareholders are claimed to perceive that the earnings derived from the one-time decrement of ETR is unlikely to persist.

In contrast to the above findings, there are also studies that find no direct association between measures of tax planning and firm value. Cloyd, Mills and Weaver (2003) interpret their findings as the influence of non-tax cost in the inversion transaction which then leads to a lack of association between ETR and firm value. Similarly, Desai and Dharmapala (2009), in investigating the association between tax avoidance activities and firm value using a sample of 862 U.S. firms for the period from 1993 until 2001, also find no direct significant association between tax avoidance activities and firm value. Further analysis by the authors shows the relationship to be correlated with firms' corporate governance. Therefore, the paper suggests that shareholders value tax planning activities by reference to both their magnitude and risk.

Besides the association between market value and aggregate effect of ETR, previous researchers also document relationships between shareholders' valuation and components of tax planning (Hanlon, 2005; Atwood and Reynolds, 2008; Bauman and Shaw, 2008; Frank, Lynch and Rego, 2009). The components include permanent differences, temporary differences, carry-forward NOLs and foreign tax rates differentials. Each of the components will be considered in turn. As the actual tax expense is usually different from statutory tax expense, shareholders could be fruitfully furnished with information on the effectiveness of tax planning activity since the difference portrays the amount of tax saved by

the companies with respect to the financial reporting year. This difference, which could be drawn from tax reconciling items of notes to the accounts in annual reports, is of valuation relevance due to its reflection of effective tax planning activities which basically aim for long-standing benefits to earnings (Schmidt, 2006).

Permanent difference could always represent tax-reporting aggressiveness (Frank *et al.*, 2009). Shareholders may price permanent difference due to its capability of reflecting strategic tax planning. This is found by Frank *et al.* (2009), where tax-reporting aggressiveness by firms that are aggressive in financial reporting (measured by discretionary accruals) was overpriced by shareholders. The overpricing is measured using abnormal stock return (in year t+1) in which the return is found to be positively associated with permanent difference (in year t) of the companies that are highly aggressive in financial reporting (fifth quintile). With the definition of aggressive tax-reporting as the downward manipulation of taxable income, the authors interpret this result as an indication that companies with aggressive tax-reporting have high permanent book-tax differences due to nonconformity of financial and tax reporting standards. This in turn provides opportunities for tax planning that are further considered by shareholders in their valuation.

Tax saving through the deferral method of tax planning could be demonstrated by temporary differences. Although temporary differences have no ultimate implications for current tax expense due to its reversal effect, it could, however, affect the tax expense composition of the respective reporting year (Maydew and Shackelford, 2007) and thus provide some indications of tax planning to shareholders. Due to its independence from permanent differences, tax saving from temporary differences could be traced from deferred tax expense. In addition, temporary differences could also be technically depicted from the current portion of tax expense, for example, through adjustments and impairments. In this case, temporary differences enlighten shareholders about earnings quality (Hanlon, 2005; Frank *et al.*, 2009).

In addition to tax deferrals, tax savings could also be generated from carry forward of NOLs. In terms of pricing the NOLs, shareholders' valuations are found by Atwood and Reynolds (2008) to be affected by presentation of carry forward NOLs in the income statement. By implementing a hedge-portfolio test, the authors document that shareholders overpriced[30] the NOLs when they were included as part of income before extraordinary items but not when they were presented as extraordinary items. Based on these findings, it could be inferred that shareholders are likely to value tax losses as a component of tax planning, depending on how the component is presented in the financial statement. In addition, the authors claim that the findings support the Financial Accounting Standards Board's proposal to implement separate disclosure of the income taxes section in the financial statement.[31]

Besides the three above-mentioned components of tax saving, foreign tax rates differentials (i.e. the difference between local tax rates and foreign countries' tax rates) is another eminent component of tax saving. Shareholders may value tax saving from the foreign tax rates differentials especially in forecasting the future for the companies since, as claimed by Schmidt (2006), the said component is able to illustrate continuing and persistent effective tax planning activities and thus provides forward-looking information to shareholders. This is illustrated by Bauman and Shaw (2008) in investigating the valuation relevance of untaxed foreign earnings disclosures of the largest U.S. multinational firms where disclosed repatriation tax liabilities are more relevant to shareholders' pricing decision than estimated repatriation tax of non-disclosing firms. The authors indicate that the results are due to downward-bias and reduced accuracy of the estimated amount. Therefore, based on this research, shareholders are expected to weigh tax saving from foreign tax rates differentials (from the local tax rate)

[30] The valuation is measured by size-adjusted return in year t+1.

[31] The board (based on the meeting's notes for 20th September 2006) proposed and accepted that *"all income taxes, including taxes related to transactions with owners, would be presented in a separate section in the basic financial statements. Amounts presented in all other sections (the business section, financing section, and discounted operations) would be pre-tax amounts, eliminating the need for intraperiod tax allocation requirements. Also, income taxes related to transactions with owners would be recognized in comprehensive income rather than as a direct charge or credit to equity. The Board also agreed to consider whether changes to existing income tax disclosure requirements are made necessary by the proposed changes in the presentation"* (Atwood and Reynolds, 2008: 3).

due to its long-term strategic tax planning characteristic; and, as claimed by Schmidt (2006), this type of tax saving may be perceived as permanent in nature especially in the case of business expansion in foreign tax jurisdictions.

In summary, shareholders are not necessarily responding only to aggregate tax saving in valuing tax planning activities - they may also value the components of tax saving. This is in line with the findings by Lev and Nissim (2004) where shareholders are found not to fully value the aggregate book-tax difference. Therefore, in supporting the valuation relevance of aggregate tax saving from tax planning activities, it is of interest to this study to investigate shareholders' valuation of the components of tax saving.

4.3 Corporate Governance and Firm value

The implications of corporate governance practice on firm value is a worldwide research interest, for example Argentina, Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Israel, Italy, Japan, Korea, Mexico, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Switzerland, U.K. and U.S. (La Porta, Lopez-De-Silanes, Shleifer and Vishny, 2002), U.S. (Gompers, Ishii and Metrick, 2003), European countries (Bauer, Guenster and Otten, 2004), Germany (Drobetz, Schillhofer and Zimmermann, 2004), Netherlands (De Jong, DeJong, Mertens and Wasley, 2005) and Korea (Black, Jang and Kim, 2006). Corporate governance could be related to firm value since, as explained in Chapter 3, good corporate governance could affect corporate performance through agency costs reduction, shareholders' interest protection and directors' professional expertise and experience (Zahra and Pearce, 1989).

In valuing a company, shareholders have also been found to compare corporate governance practice among companies. This is found by Aggarwal, Erel, Stulz and Williamson (2007) in regressing firm value with the firm's corporate governance gap, measured by the difference between the quality of the foreign firm's governance and the governance of comparable U.S. firms. The authors

measure the governance by referring to 44 index governance attributes in five categories: the board, audit, anti-takeover, compensation and ownership. The firm value is measured by Tobin's Q. The authors interpret the results as an indication of a reward by shareholders for companies that have better governance as compared to their U.S. peers.

Further positive association between firm value and corporate governance is documented by Beiner, Drobetz, Schmid and Zimmermann (2006), using a sample of Swiss firms in which Tobin's Q is found to be positively related to corporate governance index, which is developed based on the recommendations and suggestions of the Swiss Code of Best Practice examined by the authors.[32] The positive relationship between firm value and corporate governance is also documented by studies using Asian data. Cheung *et al.* (2007), using a sample of 168 of the largest firms constituting four major Hong Kong stock indices[33] for the year 2002, discover that market value of the firm, measured by market-to-book equity ratio, is positively associated with the overall corporate governance index score, which is constructed based on The Organization for Economic Co-operation and Development (OECD) principles. The said principles incorporate rights of shareholders, equitable treatment of shareholders, the role of stakeholders in corporate governance, disclosure and transparency, and responsibility of the board. In addition to the findings, the study also documents that the transparency component of corporate governance scores is the most important factor in explaining the relationship between corporate governance and market valuation. These results are highlighted by the authors as indicating the importance of corporate governance to the shareholders.

Similarly, by using Korean data, Black *et al.* (2006) also find positive association between corporate governance index and firm value, measured by Tobin's Q, market-to-book equity ratio and market-to-sales ratio. The authors employ the

[32] The index consists of five categories of survey questions: corporate governance commitment, shareholders' rights, transparency, board of directors and executive management, and reporting and auditing.

[33] The four major Hong Kong Exchange and Clearing Limited indices consist of Hang Seng Index, Hang Seng Hong Kong Composite Index, Hang Seng China Affiliated Corporate Index and Hang Seng China Enterprise Index.

Korean Corporate Governance Index[34] as a measure of corporate governance in which the index is constructed based on a spring 2001 survey of corporate governance practices by the Korean Stock Exchange. The results of the research reveal that a worst-to-best change in the index explains 0.47 rises in Tobin's Q, which represents about a 160 per cent increase in share price. The result is also similar to the other two measures of firm value.

Despite consistent findings of positive association by the above researchers, Bauer *et al.* (2004), using U.K. data, find that the implication of corporate governance in the U.K. is not as strong as the implication in countries under the European Monetary Union. The authors utilise Tobin's Q to measure firm value while Deminor's corporate governance ratings[35] (as examined by the authors) are utilised to measure companies' quality of corporate governance. Bauer *et al.* (2004) interpret the result as an indication that the U.K. market does not impound companies' corporate governance practice since the U.K. companies are likely to have strong corporate governance as compared to the corporate governance of the Eurozone[36] companies which are considered traditionally as having poor governance standards. In other words, due to good corporate governance practice in the U.K., shareholders are likely to consider that good corporate governance practices are generally in operation and therefore the corporate governance is not a discriminating factor as it is for shareholders of companies in other countries.

This is consistent with Klapper and Love (2004) who analyse the data of 336 companies from 14 countries (exclusive of the U.K.) in investigating the relationship between governance and Tobin's Q.[37] The corporate governance is measured by the average of six categories of corporate governance areas, discipline, transparency, independence, accountability, responsibility and

[34] The index covers sub-indices of shareholder rights, board structure, board procedure, disclosure and ownership parity.
[35] The rating is based on about 300 criteria which are then assigned by the authors to four broad categories that are "rights and duties of shareholders", "range of takeover defences", "disclosure on corporate governance" and "board structure and functioning".
[36] The Eurozone companies are the companies where the dataset is available in the European Monetary Union's currency.
[37] The countries are based on the available firm-level accounting data from the merger of Credit Lyonnais Securities Asia's data and Worldscope's data. The countries consist of Brazil, Chile, Hong Kong, India, Indonesia, Malaysia, Pakistan, Philippines, Singapore, South Africa, South Korea, Taiwan, Thailand and Turkey.

fairness, from the Credit Lyonnais Securities Asia's report as examined by the authors. As predicted, a positive association is revealed and the association is found to be twice as large and more significant after the country fixed-effects are included. The authors, however, do not reveal the findings on the relationships between the countries.

The positive association between corporate governance and firm value is also documented by Brown and Caylor (2006) in regressing Tobin's Q on governance scores using the data from 1,868 U.S. firms in the year 2002. The main contribution of this research compared to the others concerns the construction of the governance score that considers both internal and external governance mechanisms, in which the authors use 51 internal and external corporate governance provisions provided by Institutional Investor Services (ISS) as of 1st February 2003. In order to determine which provisions drive the above finding, the researchers further investigate the provisions that are linked to Tobin's Q. From the results, five internal and two external governance provisions are found to be linked with the firm value. The internal provisions consist of option re-pricing, average options granted, attendance at board meetings, board guidelines and stock ownership guidelines, while the external provisions consist of "poison pills" and "staggered boards". The authors signify the results as proof that both internal and external factors of corporate governance contribute to firm valuation.

The association of firm value with both internal and external mechanisms is also investigated by Agrawal and Knoeber (1996) using a sample of 383 large U.S. firms for the year 1987. The corporate governance mechanisms that are incorporated in the analysis consist of insider shareholding, institutional shareholding, shareholdings by blockholders, use of outsiders on the board of directors, debt financing, external labour market for managers and market for corporate control. The researchers test the association between the mechanisms with Tobin's Q using a single mechanism at a time as well as multivariate analysis. The findings from the single mechanism ordinary least square (OLS) regression reveal a positive association between firm value and insider ownership

while negative associations are found between firm value and outsiders on the board, more debt financing, and corporate control activity. In terms of cross-sectional OLS estimates using all mechanisms, the findings derived from single mechanism OLS remain unchanged except for insider shareholding. The authors interpret the negative relationship between outside directors and firm value as being related to political constraints related to outside directors which, it is argued, leads to lower firm valuation. This political factor is further discussed in the following section, on the relationship between board structure and firm value (section 4.3.2.2.2).

In terms of U.K. data, Weir *et al.* (2002) find mixed results in the association of Tobin's Q with both internal and external governance mechanisms. The research employs a dataset of 311 quoted non-financial U.K. firms. The internal mechanisms that are investigated comprise board structure, audit committee structure, leverage, CEO shareholding and directors' independence while external mechanisms are market for corporate control and external shareholding. From the findings, the authors are unable to conclude whether the U.K. governance regulations, specifically Code of Best Practice, definitely benefit the shareholders' interests. The authors also signify that the results have been driven by the limitation on the information about the non-executive directors' expertise, independence and appointments. The results may also be related to lack of variations in corporate governance practice between U.K. companies since, as claimed by Bauer *et al.* (2004), in general, the U.K. companies exhibit good corporate governance practice.

Based on the above literature, it can be concluded that both internal and external mechanisms drive the firm market valuation. Thus, the following two sections respectively review the literature related to the association between internal and external mechanisms and firm value.

4.3.1 External Mechanisms

External mechanisms may contribute to firm value as they could indirectly discipline the management on behalf of the shareholders. The mechanisms' disciplinary role is carried out through shareholders protection. This is particularly relevant to a legal or regulation system. The effects of legal systems on firm value are found by La Porta *et al.* (2002) where firm value of firms in countries that have better protection for minority shareholders tends to be higher. La Porta *et al.* (2002) examine the implications of legal protection for minority shareholders and of cash flow ownership by a controlling shareholder on the valuation of firms using a sample of 539 large firms from 27 countries.[38] The authors find a positive association between firm valuation and the level of minority shareholders protection and the level of cash flow ownership by the controlling shareholder. The authors indicate that the results are a confirmation of the crucial predictions of the theory that *"poor shareholder protection is penalized with lower valuations, and that higher cash-flow ownership by the controlling shareholder improves valuation, especially in countries with poor investor protection"* (La Porta *et al.,* 2002: 1168).

The effects of a regulatory system on firm value could also be related to the investors' rights and managers' duties (Daines, 2001). Daines (2001), in examining whether Delaware law improves firm value using a sample of 4,481 U.S. firms for the period from 1981 to 1996, finds evidence that Delaware corporate law improves firm value, measured by Tobin's Q. It is claimed that Delaware corporate law is able to improve the firm value since, as compared to other U.S. laws, the provisions in Delaware law maximise the shareholders' value through market forces, i.e. inclusive of competition for capital, products and corporate control (Daines, 2001). In addition to these findings, Delaware firms are also found to have a significant likelihood of receiving takeover bids and being acquired; this indicates that the firms are worthy prospects from the

[38] The countries are Argentina, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Japan, Korea, Mexico, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Australia, Canada, Hong Kong, Ireland, Israel, New Zealand, Singapore, U.K. and U.S.

acquirers' point of view since it is argued that Delaware law could facilitate the sales of public firms through its *"clear and mild takeover law and expert courts"* (Daines, 2001: 555) .

In addition to the legal or regulation system, takeover or market for corporate control could also influence firm value due to their role in delivering a threat to the management. Scharfstein (1988) highlights that takeover plays a disciplinary role by being an indirect means of governance for shareholders in which it could *"improve efficiency by enabling a third party (a raider) to take control of the firm and institute a more efficient contract, one better suited to the firm's new environment"* (Scharfstein, 1988: 185). Takeover is utilised by shareholders to discipline the management especially when the management is perceived as underperforming. This is highlighted by Karpoff, Malatesta and Walkling (1996) where the firms that are attracting governance proposals are found to have poor prior market-to-book ratio. However, the efficiency of takeover could be reduced if the management uses anti-takeover strategies and hoarded resources to defeat the takeover bid, for example, by using the resources to fight off the bid or by selling the poor investments and retaining the good investments so as to increase the firm value, which would then reduce the probability of a takeover bid occurring (Stulz, 2000).

Takeover, as a corporate governance mechanism, could be more effective with the presence of a legal system mechanism. This is revealed by Sinha (2006), in examining the effects of regulation and a contested market for corporate control as the external mechanisms of corporate governance of U.K. firms, in which the research concentrates on two sectors, the manufacturing and banking industries. The sectors are chosen since they have a different governance environment in relation to the regulation system; the manufacturing sector is characterised by a contested market for corporate control with little or no regulatory interference while such a characteristic is not applicable to the banking sector due to the supervisory function performed by the Bank of England. The findings reveal a significant association between share price and disciplinary top management turnover in the manufacturing sector, which indicates that shareholders are more

concerned with the governance of firms in the manufacturing sector as compared to the banking sector. Similarly, outside directors are considered to be more effective in disciplining top management in manufacturing as compared to the banking sector. These findings exhibit the importance of market for corporate control and regulatory systems in firms' governance from the shareholders' point of view.

The implication of takeover for share price is also investigated by Lauterbach, Malitz and Vu (1991) in examining the influence of takeover threats on the stock price of firms proposing anti-takeover amendments, using the data of 383 anti-takeover amendments during the period from 1979 to 1985. The results of the study show that takeover is an effective governance mechanism, where the share prices of firms that become takeover targets within two years are significantly increased as compared to a majority of other firms. A similar study of U.K. firms' takeover announcements also finds that the announcement is associated with an increase in share price of the target firm, a significant proportion of which is anticipated (Holland and Hodgkinson, 1994).

The tendency of the occurrence of takeover activity seems to be related to large shareholders since the large shareholders are willing to absorb the risk in takeover. This is documented by Shleifer and Vishny (1986) in specifying the basic model in the exploration of the presence of a large minority shareholder. The model shows the effect of large shareholders on firms' share prices; with the existence of takeovers, the share prices are likely to rise with the increment of shares held by large shareholders.

Overall, it can be concluded that shareholders perceive takeovers as playing a significant role in governance. However, the effectiveness of takeover could be debatable due to the ability of the management to repel takeover bids (Stulz, 2000). Therefore, alternatively, internal mechanisms may also essential in corporate governance.

4.3.2 Internal mechanisms

The relationship between internal mechanisms and firm value has been widely studied (for example Yermack, 1996; Anderson and Reeb, 2003; Bai, Liu, Lu, Song and Zhang, 2004; Beiner, Drobetz, Schmid and Zimmermann, 2004; Ahmed, Hossain and Adams, 2006; Beiner *et al.*, 2006; Thomsen *et al.*, 2006). In mitigating the agency problem, internal mechanisms might substitute one another. This is in line with the findings by Florackis (2005) in a study that investigates the relationship between internal corporate governance mechanisms and Tobin's Q. By using a sample of 962 non-financial U.K.-listed publicly traded firms for the period from 1999 to 2003, the author finds a non-linear impact of both managerial ownership and managerial compensation on the firm value. In addition to managerial ownership and managerial compensation, the debt-maturity structure is also associated with Tobin's Q. The author regards the finding as indicating the possibility of managerial ownership and managerial compensation working as substitute mechanisms in performing the governance role. However, in investigating the relationship between Tobin's Q and managerial ownership, board structure and the combination of managerial ownership and board structure, using the data of 1,650 non-financial companies quoted on the LSE from 1996 to 1997, Faccio and Lasfer (1999) find a weak association between the mechanisms and firm value. The results indicate that managerial ownership and board structure might not work effectively as substitutes.

Thus, in order to ensure effective monitoring, a comprehensive understanding of the effectiveness of each mechanism is important prior to any conclusions about substitution. Therefore, with the understanding of internal corporate governance mechanisms as detailed in Chapter 3, the following sections review previous literature on the association between ownership structure and board of directors with firm value.

4.3.2.1 Ownership Structure

Ownership structure could be related to firm value since shareholders might view the ownership structure as a mechanism that could reflect shareholder protection especially among minority shareholders. In investigating the association between ownership regime and firm value, Pantzalis *et al.* (1998) find some evidence of the association between high blockholder stakes and lower average market values, measured by excess valuation. The authors test the relationship between four types of ownership regimes using a dataset of 549 U.S. firms with firm value in which the regimes consist of the combination of insider and blockholder ownership where type I refers to low insider ownership and low blockholder ownership, type II refers to low insiders but high blockholders, type III is high insiders but low blockholders, and type IV refers to high insiders and high blockholders. The sequence, from the highest to the lowest firm value, is found to be associated with type I, type III, type II and finally type IV. The authors regard the result of the highest firm value among type I firms as being due to the blue-chip type of firms that have high proportion of institutional shareholders who could play the governance role as performed by blockholders. This claim is consistent with the findings by McConnell and Servaes (1990) who document a positive relationship between Tobin's Q and the portion of institutional shareholders. Thus, it could be concluded that the contribution of ownership structure to explaining the variation of firm value could be clarified using a single ownership type or combination of ownership types.

The discussion on the effectiveness of blockholder ownership is also referred to by previous researchers as the effectiveness of concentrated ownership. Ownership concentration, depending on the identity of the ownership (for example family, financial institution and government) is effective in mitigating the agency problem (Pedersen and Thomsen, 2003) as different identities have different abilities in limiting managerial opportunism. In examining the relationship between ownership structure and market-to-book equity ratio of the

largest European firms[39] for the period from 1992 until 1995, Pedersen and Thomsen (2003) find that, in the case of companies where the largest owners are a financial institution or another corporation, the firm value is found to be positively associated with ownership concentration. However, the positive association is found not to be applicable if the largest owner is a family or a single individual. If the largest owner is a government organisation, firm value is documented as negatively associated with ownership concentration. The authors indicate that the results show the importance of owner-identity from the shareholders' point of view, specifically in the Continental European institutional setting, where the companies in said region having a high level of ownership concentration but a low level of minority investor protection.

In contrast, using U.S. data, Anderson and Reeb (2003) find a positive association between family ownership and firm value. Their study investigates the relationship between founding family and Tobin's Q using a sample of 403 U.S. firms from 1992 to 1999. The authors find that family firms are valued more highly by the shareholders, compared to non-family firms. Tobin's Q is also found to be higher for companies where a family member is the CEO than for companies that have an outside CEO. The authors interpret the result as evidence that family ownership is an effective ownership structure.

Based on the findings of the above researchers, it can be concluded that shareholders in different regions or countries value the ownership structure differently due to general different ownership structures, country by country, for example, in the U.K., the ownership structure is more dispersed while the ownership structure of companies in Asian countries is more concentrated (Faccio and Lang, 2002). The implications of different ownership structures for firm value in firms of different countries is also documented by Thomsen *et al.* (2006) in examining the relationship between blockholder ownership and Tobin's Q using a dataset of 863 firms, both Anglo-American and from Continental

[39] The firms are from France, Germany, Italy, Spain, Austria, Belgium, Denmark, Norway, Finland, Sweden and Netherlands.

Europe[40], for a sample period of 1990-1998. The findings indicate that Tobin's Q for the companies in the U.K. and U.S. is not significantly associated with blockholder ownership. However, significant negative associations between blockholder ownership and Tobin's Q are found for firms in Continental Europe. The authors also find that the negative association is significant only for companies with high levels of blockholder ownership of more than 10 per cent. This is indicated by Thomsen *et al.* (2006) as conflicts of interest between blockholders and minority investors. The authors also interpret the results as the minority shareholders' negative perception of the large percentage of blockholder ownership in Continental Europe. This result is consistent with Thomsen's (2005) research investigating the relationship between blockholder ownership, dividend policy and firm value in the largest European Union (EU) and U.S. companies for a period from 1988 to1998, where the author signifies the result as a negative perception of the excessive level of block ownership from the minority shareholders' point of view.

Based on these findings, shareholders are likely to value dispersed ownership, an ownership structure that explains ownership as a widely-held structure and avoids blockholder or concentrated ownership structure. This is documented by Leech and Leahy (1991) in a study using 470 U.K.-listed companies' data where a greater dispersion of ownership is found to be related to higher valuation ratio, profit margin and growth rate of net assets. These findings are in line with Chen, Cheung, Stouraitis and Wong (2005b) in a study that analyses a dataset of 412 publicly listed Hong Kong companies from 1995 to 1998 - the authors document no association between concentrated family ownership and market-to-book equity ratio.

The negative perception of blockholders or concentrated shareholders could also be related to managerial blockholders' opportunism. In this circumstance, non-management blockholders are valued by the shareholders since a large non-management shareholding block is said to have enough control and incentives to monitor and influence the management (Lins, 2003). Thus, from this point of

[40] The Anglo-American companies are from U.S. and U.K. while companies from Continental Europe are from France, Germany and other notions.

view, high concentration of non-managerial ownership could lead to higher firm value. This is found by Bai *et al.* (2004) in investigating the relationship between ownership concentration and Tobin's Q using the data from China for the period of 1999 to 2001, in which a high concentration of shareholding among the second to the tenth largest shareholders is positively related to market valuation.

In addition to the above, previous researchers have also investigated the relationship between firm value and managerial ownership. Many studies find a non-linear relationship between managerial ownership and firm value. Short and Keasey (1999) investigate the relationship between the valuation ratio and return on equity (ROE) with ownership structures using a dataset of 225 U.K. firms for the period of 1988 to 1992. The findings indicate cubic relationships between managerial ownership and firm value in which the positive-negative-positive relationship is inferred as alignment-entrenchment-alignment of managerial interest. In terms of U.S. data, McConnell and Servaes (1990), in investigating the relationship between Tobin's Q and the structure of equity ownership, find a curvilinear relationship between managerial ownership and firm value. The turning point of the positive association on the curve is where the insider ownership reaches approximately 40 per cent to 50 per cent; at this point the curve begins to move slightly downward. Similarly, Morck *et al.* (1988) find a non-linear relationship between managerial ownership and Tobin's Q among 371 U.S. firms. However, the turning point of the curve is lower; it begins with a positive relationship until reaching a five per cent level of managerial ownership, followed by a negative relationship until the managerial ownership reaches 25 per cent where it returns to positive. The non-linear relationship between managerial ownership and firm value is also found by Bhabra (2007) using 54 New Zealand publicly listed firms for the period of 1994 to 1998. These findings illustrate how shareholders value managerial ownership as a mechanism for controlling managerial opportunism in which lower managerial ownership signifies an alignment between shareholders' and managers' interests.

In summary, it can be concluded that the ownership structure is of concern to shareholders in valuing the companies. However, in interpreting the relationship

between ownership structure and firm value, one should consider the possibility of an alternative direction of causality as highlighted by López-Iturriaga and Rodríguez-Sanz (2001). In addition to the claim that ownership structure influences the firm value, the authors argue that ownership structure could also be influenced by the firm value. This may be due to the possibility of the owners retaining or increasing their fraction of ownership in the companies that exhibit high firm value. Therefore, shareholders' valuation and ownership structure could be seen as simultaneously related.

4.3.2.2 Board of Directors

The importance of the board of directors from the shareholders' point of view could be explained from the aspects of board composition and board structure as discussed in Chapter 3. The following sections will review previous literature on the association between board composition and board structure with firm value.

4.3.2.2.1 Board Composition

Board composition, which consists of board size and board type, is important to the shareholders since optimal board composition would reflect better governance. A positive relationship between firm value and board size is found by Beiner *et al.* (2006) in a study that uses a sample of 235 Swiss firms for the year 2002. This finding indicates the importance of board size, from the shareholders' point of view, in mitigating the agency problem.

However, the effectiveness of a large board, in the shareholders' perceptions, is questioned by other researchers using different sets of samples (for example Yermack, 1996; Conyon and Peck, 1998b; Postma, Ees and Sterken, 2001; Loderer and Peyer, 2002; De Andres *et al.*, 2005; Cheng, 2008). Postma *et al.* (2001), in examining the relationship between market-to-book ratio and board composition of 94 Dutch non-financial listed firms in 1996, document an insignificant relationship between firm value and board size. The authors claim that small boards are more effective even though the large board is correlated

with a large number of outsiders on the supervisory board. In fact, Postma *et al.* (2001) find that the number of outsiders is negatively associated with market-to-book value. Similarly, using 452 large U.S. firms for the period from 1984 to 1991, Yermack (1996) also finds a negative relationship between board size and firm value, which is measured by Tobin's Q. Further negative association between board size and firm value is highlighted by Loderer and Peyer (2002) using a sample of firms listed in Switzerland in which the firm value is measured by Tobin's Q. The authors interpret the results as indicating the bad overall governance system of a large board. In terms of European[41] data, Conyon and Peck (1998b) reveal significant negative relationships between firm value and board size in U.K. and the Netherlands. The negative association between board size and firm value is explained by Cheng (2008), in investigating the association between board size and Tobin's Q using 1,252 U.S. firms' data for a sample period of 1996 - 2004, as a larger board tends to compromise more to reach a consensus, thus leading to more moderate strategies in firm performance.

The negative relationship between board size and firm value could also be interpreted as being related to the board's approach to decision-making, for example, with regard to shareholders' rights and power distribution among directors, where a large board is perceived as leading to weak coordination, flexibility and communication. This is explained by De Andres *et al.* (2005) in interpreting a negative association between board size and Tobin's Q[42] and market-to-book ratio.

In light of the above findings, it can be claimed that there is a relationship between board size and firm value. Further, Ghosh (2003), in analysing the relationship between board structure, CEO compensation and firm value using 462 manufacturing firms from the Indian corporate sector for the period from 1997 to 2002, finds a non-linear relationship between board size and firm value, implying a turning point in the positive-negative relationship. Thus, based on the

[41] The countries are U.K, France, Netherlands, Denmark and Italy.
[42] The authors apply adjusted Tobin's Q in which the measure is computed as the ratio of book value of debt plus the market value of equity to the book value of debt plus the book value of equity.

non-linear relationships between board size and firm value noted by previous studies, it can be concluded that an optimal size of board is valued by the shareholders as an effective mechanism in mitigating the conflict between shareholders and agents.

The role of governance by board composition could also be related to type of control. One type of control that is considered by previous research is the controlling family (Yeh and Woidtke, 2005). By using 251 non-financial public listed companies in Taiwan, Yeh and Woidtke (2005) find a negative relationship between Tobin's Q and family-controlled firms, particularly in cases where a higher proportion of board members are affiliated to the controlling family. This is interpreted by the authors as a negative perception by shareholders of family-controlled firms as these firms are said to be associated with negative entrenchment effects and larger agency problems. However, in terms of controlling by the founding family, McConaughy *et al.* (2001) find a positive relationship between the firms controlled by the founding family and market-to-book ratio. This result is interpreted by the authors as efficient operation by the said type of control. The research is conducted by utilising U.S. sample firms for the period of 1986 to 1988. Similarly, Barontini and Caprio (2006) find that family-controlled firms do not exhibit a low Tobin's Q[43] even though a family-controlled firm is said to be related to a greater separation between control and cash flow rights, since, as claimed by Claessens and Fan (2002), the insertion of family members onto the board is likely to occur when the control rights are largely different from the cash flow rights, which exhibits a higher agency problem in the family-controlled firms compared to other companies. Barontini and Caprio (2006) utilise a dataset of 675 public companies from 11 countries in Continental Europe for the period of 1999 - 2001.[44] In addition to the above findings, the authors find a positive association between Tobin's Q with founder-controlled corporations and descendant-controlled corporations, in which the

[43] The authors adjust the computation by multiplying the book value of minority interest with the market-to-book ratio of the company's shareholders' equity in order to obviate the underestimation of Tobin's Q due to full consolidation of the financial statements of controlled companies.

[44] The countries consist of Belgium, Denmark, Finland, France, Germany, Italy, Netherlands, Norway, Spain, Sweden and Switzerland.

descendant sits on the board as a non-executive director. However, if the descendant is the CEO, the valuations of family-controlled firms are found by the authors to be no different from non-family firms. The authors interpret the findings as evidence of the importance of regulations on the prohibition of separation between control and cash flow rights.

In addition to the size and type of control, board independence is also found to be associated with firm value. This is documented by Aggarwal *et al.* (2007) where Tobin's Q is found to be negatively related to board independence. This could be due to political reasons as highlighted by Agrawal and Knoeber (1996) where board independence is related to outside directors, for example politicians, environmental activists or consumer representatives, who are said to impose political constraints. Therefore, based on the above literature review, it can be concluded that shareholders consider the effectiveness of board composition in valuing the companies.

4.3.2.2.2 Board Structure

Board structure, which can be viewed from the aspect of duality and board committees, is valued by the shareholders since effective board structure contributes to a company's financial performance (Zahra and Pearce, 1989). However, this does not mean that uniform board structure across companies is appropriate, as discovered by Vafeas and Theodorou (1998) in testing the relationship between board structure and market-to-book ratio using 250 U.K. publicly traded firms for the year 1994. The results of the research do not show any significant link between board structure, which comprises director affiliation and ownership, chairman affiliation, and committee composition, and market-to book-ratio. Therefore, the authors claim that uniform board structures should not be mandated, since governance needs are different across firms.

In terms of remuneration committee, shareholders value an appropriate remuneration committee structure because it could provide a signal that the compensation paid to the managers is based on the managers' performance;

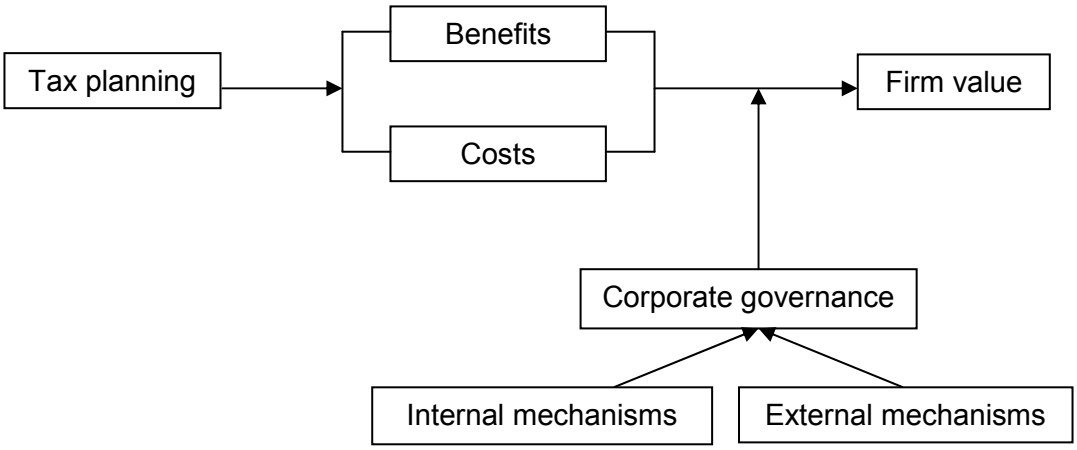
according to Vafeas and Theodorou (1998), the remuneration committee is highly responsible for determining executive remuneration. A positive association between compensation and Tobin's Q is found by Mehran (1995). These findings indicate that shareholders value executive compensation as a corporate governance mechanism which confirms the argument on the direct association between compensation and managerial ability, as claimed by Narayanan (1996). However, the positive association between firm value and compensation may not persist in the case of excess payment of compensation. This is found by Ghosh (2003), who noted that the relationship between compensation and firm value is found to be non-linear (positive-negative relationship). This relationship shows a turning point of the inverted U-shape of the compensation-firm value relationship. This result is interpreted by the author as an indication of low performance due to an increased level of leisure by the directors that leads to poor firm value.

In addition to the remuneration committee, an appropriate audit committee structure could also contribute to firm value since, according to Weir *et al.* (2002), a well-structured audit committee ensures the quality of financial reporting disclosure. As highlighted in Chapter 3, an independent audit committee is more effective for corporate governance (Weir and Laing, 2001). However, the effectiveness of audit committee independence could be questioned by the shareholders due to the appointment of directors for the above-mentioned political reasons (in section 4.3.2.2.1). This is revealed by a negative association between audit committee independence and firm value, as discovered by Aggarwal *et al.* (2007). Therefore, based on these findings, shareholders are found to consider the importance of board structure in valuing the firm where effectiveness is not only being assessed in terms of functions but also in terms of factors that contribute to the structure, for example, the appointment of directors.

4.4 Association of Tax Planning and Corporate Governance with Firm Value

The association between tax planning and firm value can be better explained in conjunction with corporate governance factors (Desai and Dharmapala, 2009). This section reviews previous literature in relation to the association of tax planning and corporate governance with firm value. However, only a limited amount of literature has so far studied this association. Tax planning activities might be more meaningful to shareholders with knowledge about the company's governance condition since, as discussed in Chapter 2, the risks involved in tax planning might be lower if companies exhibited good corporate governance practices. Thus, in this circumstance, corporate governance plays a mediating role in influencing shareholders' valuation of tax planning activities. This is depicted by figure 4.1.

Figure 4.1
Tax Planning, Corporate Governance and Firm Value



The importance of corporate governance in explaining the association between tax planning and firm value is illustrated by Desai and Dharmapala (2009). The authors initially test the association between book-tax gap and Tobin's Q without the corporate governance variable but no significant association is documented. However, in further analyses, which consider associations between book-tax gap

and Tobin's Q with separations of the sample based on a governance measure, the authors find a significant positive association between book-tax gap and firm value from a good governance firms-years. The measure of corporate governance is based on a fraction of a company's shares owned by institutional investors in which ratios of more than 60 per cent indicate stronger governance institutions.[45] The institutional investors are chosen as a proxy of a corporate governance mechanism as they have greater incentives and capacity to monitor the managers (Desai and Dharmapala, 2009). The results of the analyses are interpreted by the authors as the contribution of corporate governance in explaining the tax avoidance undertaking by companies, in which the better the corporate governance, the larger the positive effect of tax avoidance on firm valuation. This result also shows that good governance reduces shareholders' doubts about the value of tax planning activities (Desai and Dharmapala, 2009). This is due to the ability of good governance practice to lessen the managers opportunism in pursuing their self-interest in tax planning, as there is a tax-information asymmetry between shareholders and managers - the information on tax planning activities is kept secret by the managers to prevent detection (Desai and Dharmapala, 2008).

Besides institutional ownership, a family ownership structure could also influence the shareholders' valuation of tax planning activities. This is highlighted by Chen *et al.* (2010) where a potential share price reduction from non-family shareholders, a potential of penalty by tax authority and a potential of impairment of family reputation are the non-tax factors considered by family firms in tax planning. Thus, shareholders valuation of tax planning might be influenced by the ownership structure.

In addition to Desai and Dharmapala (2009), Wilson (2009) also finds that shareholders value the tax planning activities as long as the companies display good corporate governance conduct. Wilson (2009) tests the association for three time periods associated with firms' tax planning or "sheltering" activities: the period of active tax sheltering, 24 months prior to the initial year of tax

[45] The percentage was determined based on the mean of institutional investors of the sample.

sheltering, and 24 months after the final year of tax sheltering. The corporate governance variable is measured using the corporate governance index developed by Gompers *et al.* (2003). The results of the study indicate that active tax shelter firms with good corporate governance demonstrate positive abnormal returns while tax shelter firms that have poor corporate governance demonstrate significant lower abnormal returns. The author interprets the results as evidence that tax sheltering is an activity that creates shareholders' wealth only for firms that have good corporate governance practice. The interaction between active tax sheltering and good governance implies a sign of strong alignment between shareholders' and managers' interests which in turn results in higher shareholders' valuation (Wilson, 2009).

In light of the above findings, it can be concluded that tax planning activities by companies that have good corporate governance practice are valued by shareholders. However, such valuation consequences contradict the findings by Hanlon and Slemrod (2009) in examining the stock price reaction to news about tax aggressiveness. As compared to Desai and Dharmapala (2009) and Wilson (2009), Hanlon and Slemrod (2009) find evidence that the share price of good governance companies, measured by a high non-entrench score[46], reacts negatively to the news about the company's involvement in tax sheltering. In contrast, the market price of poor governance companies, measured by high entrench score[47], is found to respond positively towards the news. Based on these results, the authors conclude that tax sheltering activities are perceived negatively by the markets since the news is viewed by the shareholders as being related to the negative insiders' intentions not only towards the tax authority but also towards the shareholders. In other words, if the shareholders suspect that the management are being aggressive towards the tax authority, the market will doubt the accuracy of the financial statement, which then leads to negative shareholders' valuation (Hanlon and Slemrod, 2009). The results are also rationalised *ex-post* by Hanlon and Slemrod (2009) where the negative relationship between share price and the tax sheltering news of good governance

[46] The score is developed based on an earlier version (i.e. 2005) of Bebchuk, Cohen and Ferrell (2009) and Gompers *et al.* (2003).
[47] Ibid.

companies is said to be related to the market's reaction to suspicions of poor corporate governance that were previously not impounded in the shareholders' valuation. However, the positive coefficient estimate of the tax planning variable of the poor corporate governance companies remains a puzzle, according to the researchers, which suggests the possibility of a relationship between the corporate governance measures and other unmeasured characteristics of the companies.

The above studies concentrate on a U.S. setting and document mixed directions of the association between tax planning, corporate governance and firm value. Therefore, as there is a general lack of published research that studies these relationships in a U.K. setting, further research needs to be conducted to confirm the relationship using U.K. data. Table 4.1 presents a summary of the studies and subsequently highlights the gaps in the literature investigating the firm value-tax planning-corporate governance relationship.

The summary shows that the available studies use various measures of firm value to reflect the effect of tax planning and corporate governance on shareholders' valuation. The literature also directly focuses on specific measures of corporate governance, which may limit the generalisability of the results. Therefore, to ensure the representativeness of the selected mechanism towards companies' corporate governance conduct, this study determines corporate governance measures through a data reduction process using principal component analysis. This is discussed in detail in Chapter 6. Thus, based on these gaps in the literature, this study is interested in investigating the relationship between market value and tax planning whilst including corporate governance factors along with other data that is publicly available for scrutiny by shareholders.

Table 4.1

Summary of Previous Studies on Relationship between Firm Value, Tax Planning and Corporate Governance

	Sample	**Dependent Variable**	**Independent Variable**	**Corporate Governance Measure**	**Findings/Conclusions**
Chen *et al.*(2010)	1003 U.S. firms (1996-2000)	ETR, Cash ETR, book-tax gap based on Manzon and Plesko (2001-2002), book-tax gap based on Desai and Dharmapala (2006)	Market to book ratio, natural log of market value of equity	Dummy of founding family members continue to hold position in top management, continuous family equity ownership variable, dummy of family blockholder indicator (more than five percent)	Significant level of the relationship between firm value and tax planning is not tested. The measures of firm value are for controlling the fundamentals effect on the relationship between corporate governance measures and tax planning measures
Desai and Dharmapala (2009)	862 U.S. firms (1993-2001)	Tobin's Q and scaled market value	Scaled book-tax gap, interaction variable of book-tax gap and institutional ownership	Institutional ownership	• OLS approach o All firms without institutional ownership variable: No significant relationship between Tobin's Q and book-tax gap o All firms with institutional ownership and interaction between book-tax gap and

					institutional variables: No significant relationship between book-tax gap and Tobin's Q. Positive relationship between interaction variable with firm value o Firm-years with high institutional ownership: Significant positive relationship between book-tax gap and Tobin's Q o Firm-years with low institutional ownership: No significant relationship between book-tax gap and Tobin's Q • Instrument variable (IV) approach o No significant relationship between book-tax gap and firm value (Tobin's Q and scaled market value) o Positive relationship between interaction variables (book-tax gap and institutional ownership) with firm value (Tobin's Q and market value)
Hanlon and Slemrod (2009)	97 U.S. firms (event study of a range date from 1st	Cumulative abnormal return	Control events: News about involvement in tax shelters	Entrench score and non-entrench score developed from Bebchuk *et al.*	• Significant negative relation between non-entrench score and abnormal returns. This relationship is not significant when observations with

	January 1990 until 1st September 2004)		(three-day window centred on the day of the press mention)	(2009) and Gompers *et al.* (2003)	some specific types of accounting news during the event window are excluded • Significant positive relation between entrench score and abnormal returns. This relationship is not significant when observations with some specific types of accounting news during the event window are excluded
Wilson (2009)	59 public U.S. firms - accused by Treasury or identified in the press from 1975 to 2007 (Event study of before, during and after tax shelter participation)	Abnormal return	Control events: Three terms that are: 1. During the period of active tax sheltering 2. 24 months prior to initial year of tax sheltering 3. 24 months after the final year of tax sheltering	Index of shareholder rights (Gompers *et al.*, 2003)	• Significant positive abnormal stock return in each of the three periods for well-governed tax shelter firms • Significant negative abnormal return of an indicator variable of poorly-governed tax shelter firms

4.5 Conclusions

This chapter aims to review the literature relating to the implications of tax planning and corporate governance on firm value. In order to provide a better understanding of the firm value, this chapter begins with an explanation of measures of firm value in which there are two sub-sections that review firm value-related literature: firstly, market value of equity in firm valuation and secondly, other measures of firm value. Subsequently, this chapter proceeds with two sections that review the literature related to the association of tax planning with firm value and the association of corporate governance with firm value. The following section of this chapter discusses the association of tax planning and corporate governance with firm value. In addition to the discussion, the section also provides a summarised overview of the related literature and thus identifies the gaps in the current body of knowledge.

In summary, it can be concluded that shareholders value tax planning depending on both its magnitude and their attitudes towards risk; shareholders are found to value tax planning activities as a means of wealth creation only with consideration of good corporate governance, since good governance practice is said to be able to reduce the risk of managerial opportunism afforded by the lack of transparency in tax planning information made available to the shareholders (Desai and Dharmapala, 2008; Desai and Dharmapala, 2009; Wilson, 2009). The firm value-tax planning relationship is found to be pronounced when corporate governance is considered as a moderating influence (Desai and Dharmapala, 2009) and, in fact, wealth creation through tax planning (measured by abnormal return) by poor governance companies is found to be significantly lower compared to companies that exhibit good corporate governance practice (Wilson, 2009). This indicates that tax planning activities conducted by management with good governance are valued by shareholders. This might be due to the claim that good corporate governance practice increases shareholders' confidence about managerial tax planning decisions in the sense of reduced agency costs (Desai and Dharmapala, 2009). Despite this claim, previous studies also document contradictory results that indicate the shareholders' prudence over managers'

opportunism in pursuing their self-interest while managing the companies (Hanlon and Slemrod, 2009). This also shows that good governance does not necessarily guarantee an alignment of owners' and managers' interests. However, the generalisability of these findings is limited to a U.S. setting; to the researcher's knowledge there is no published research that investigates the relationship in a U.K. setting.

Chapter 5

Hypotheses Development

The literature review in Chapter 4 discusses evidence of the moderating influence of corporate governance on shareholders' tax planning valuation. However, the highlighted gaps in the general literature suggest the need for further empirical testing of the relationship, particularly in a U.K. setting. This chapter will focus on relevant underlying theories in developing the hypotheses. Subsequently, this chapter continues with hypotheses development in which the testable hypotheses will be developed and formally stated.

5.1 Theory

Gioia and Pitre (1993) define theory *"as any coherent description or explanation of observed or experienced phenomena"* (Gioia and Pitre, 1993: 587). This implies previous knowledge of a theory about related phenomena of a current piece of research. Therefore, along with knowledge, theory plays an important role in predicting the relationships between variables in empirical research. In addition, theory is also important in research methods since it provides underlying justifications for practice, hypotheses and management control (Gill and Johnson, 2002). This is in line with the interpretation of theory by Collis and

Hussey (2003) in which theory is referred to as *"a set of explanatory concepts"* (Collis and Hussey, 2003: 56).

The assumptions and predictions of this study are based on two distinct theories: the Scholes-Wolfson framework and agency theory. As discussed in detail in Chapter 2, the Scholes-Wolfson framework highlights three important principles of effective tax planning that decision-makers need to consider: "all contracting parties", "all taxes" and "all costs" (Scholes and Wolfson, 1992). All parties are considered in tax planning activities since the managers, in tax planning decision-making, affect the stakeholders at large. In fact, societies are the most affected parties since tax planning activities could cause problems in resource allocation (Slemrod, 2004). In terms of all taxes and all costs, managers ought to incorporate those principles in tax planning activities since, in achieving the ultimate objective of tax planning, that is maximising after-tax returns, the managers consider the trade-offs between the benefits and costs of tax planning. Subsequently, under the classical economic approach, which highlights utilisation of utility with limited resources (O'Brien, 2003), shareholders would be assumed to positively value tax planning if the activity were to increase the after-tax returns due to the net tax planning benefit of all costs and tax savings.

Consideration of all costs in tax planning by managers is also inclusive of the cost related to the principal-agent problem. This problem, caused by the separation of ownership and control (Jensen and Meckling, 1976), influences shareholders' valuation of managers' tax planning activities through the perception of the risk of tax planning, due to information asymmetry between the shareholders and the management. The tax planning information asymmetry is caused by the lack of transparency about tax planning information made available to the shareholders - in order to prevent detection by the authorities, companies' tax planning information is kept secret by the managers. This can lead to managerial opportunism in the sense of maximising the managers' wealth at the expense of the shareholders (Desai and Dharmapala, 2009). This risk is basically related to a conflict of interests between shareholders and managers in which the conflict, according to the agency theory (Jensen and Meckling, 1976), arises because of conflicting wealth maximisation objectives of the two

contracting parties. This is discussed in detail in Chapter 2 and Chapter 3, in which it is reasoned that, ideally, shareholders might prefer tax planning activities since such activities could result in increased after-tax returns; however, this is balanced by the argument that managers might act differently for reasons of self-interest, so shareholders might value tax planning negatively.

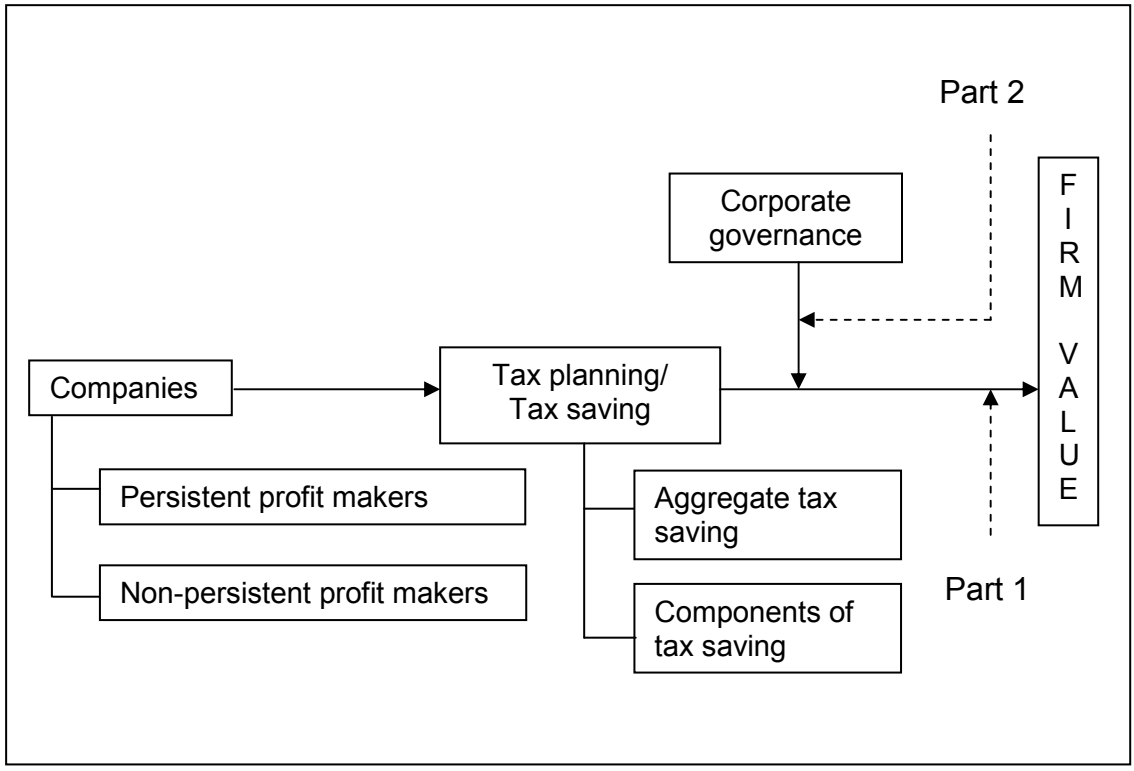
In this circumstance, the agency theory explains that agency costs have to be incurred by shareholders in aligning the conflicting interests between managers and shareholders that arise from the complex setting of the contracting shareholders-managers relationship (Jensen and Meckling, 1976; Fama and Jensen, 1983). Therefore, shareholders' negative valuation of tax planning might differ with the existence of good corporate governance conduct, which could be exhibited by corporate governance mechanisms. The significant roles of corporate governance mechanisms, for example ownership-monitoring, board of directors and regulatory system, in monitoring the management have been extensively explored by previous researchers (for example Zahra and Pearce, 1989; Hart, 1995; Denis and McConnell, 2003). The empirical evidence on the effectiveness of the monitoring functions of the mechanisms from the shareholders' point of view is discussed in Chapter 3.

Therefore, the presence of corporate governance mechanisms could influence tax planning activities wherein the mechanisms provide some insights to the shareholders in valuing tax planning by the management. The positive influence of corporate governance in the tax planning-firm value relationship is highlighted by Desai and Dharmapala (2009) and Wilson (2009). However, Hanlon and Slemrod (2009) find a contradictory result in which firm value of good governance companies is found to be negatively related with tax planning. This could be due to negative perceptions by shareholders of the managers' intentions in conducting tax planning activities. The findings of these studies are discussed in detail in Chapter 4.

Based on the above discussions, the Scholes-Wolfson framework and agency theory provide underlying predictions and justifications towards the aim of this study in investigating the relationship between firm valuation and tax planning

activities whilst considering companies' corporate governance practice as a moderating influence of the relationship. The said relationships will be scrutinised based on two parts. Firstly, the relationship between market value and tax planning will be investigated in order to gain an insight into shareholders' valuation of tax planning activities. Secondly, the relationship between market value, tax planning and corporate governance will be tested to investigate the implications of corporate governance on the firm value-tax planning relationship. These are illustrated by figure 5.1.

Figure 5.1
Tax Planning, Corporate Governance and Firm Valuation



5.2 Hypotheses

This section aims to formally state the hypotheses that will be tested in this study. Hypothesis is a *"testable proposition about the relationship between two or more events or concepts"* (Saunders *et al.*, 2007: 599). Hypotheses in this study consist of propositions that are related to variables in associating firm value, tax planning and corporate governance. Based on the arguments highlighted by previous studies and the assumptions in tax planning framework and agency theory, this research intends to investigate the association of several variables with firm value and tax planning. The hypotheses of this study are developed from the understanding obtained from Chapters 2, 3 and 4.

5.2.1 Firm Value and Tax Planning

Chapter 4 reviews previous studies related to shareholders' valuation on corporate tax planning activities, and mixed results are documented. The positive relationship between firm value and tax planning (Tiras and Wheatley, 1998; Amir and Sougiannis, 1999; Desai and Hines, 2002) could be due to shareholders' perception that tax is a burden to a company (Chen *et al.*, 2010) while the negative relationship (Lev and Thiagarajan, 1993; Abarbanell and Bushee, 1997) could be related to the perception that tax planning is a risk-related activity (Slemrod, 2005; Desai and Dharmapala, 2009; Chen *et al.*, 2010). Therefore, based on the above-mentioned mixed findings of previous studies, the extent of tax planning is presumed to be related to firm valuation in unpredicted directions. In addition, to reflect strong incentives of conducting tax planning activities (Mills *et al.*, 1998), the relationship will be examined within persistent profit-making companies. Thus, it is hypothesised (in alternative form) that:

> **Hypothesis 1a (H_{1a}):** There is an association between the extent of a persistent profit-making company's tax planning activities and its market value.

As earnings persistence could contribute to shareholders' valuation (Lev and Thiagarajan, 1993), shareholders are expected to value tax planning by non-persistent profit-making companies differently as compared to the other companies. This could be due to the perception that the non-persistent earnings companies are unlikely to exhibit persistent tax planning or long-run tax planning because of the reduced need and higher potential costs due to fluctuating profits. This is in line with Dyreng *et al.* (2008), where a significant fraction of positive pre-tax income firms are found to be involved in long-run tax avoidance successfully. Thus, with the expectation of differing shareholders' perceptions on risks and returns of tax planning by non-persistent companies as compared to persistent companies, the relationship between a company's market value and tax planning differs between persistent and non-persistent profit-making companies. Therefore, the next hypothesis (in alternative form) will examine the relationship between firm value and the extent of tax planning by non-persistent profit-making companies. The hypothesis testing (discussed in Chapter 7) will provide evidence on whether the firm value function is different between persistent profit-making companies and non-persistent profit making companies.

> **Hypothesis 1b (H_{1b}):** Firm valuation is associated with the extent of tax planning by non-persistent profit-making companies.

As discussed in Chapter 4, the relationship between firm value and tax planning could be further explained by components of tax saving because of differences in perceived benefits and agency-related risks. Based on previous studies, the components could be categorised as permanent differences, temporary differences, foreign tax rates differentials and NOLs.

Frank *et al.* (2009) find evidence of shareholders' valuation of permanent differences. This is interpreted as evidence of shareholders' valuation of companies that are aggressive in tax-reporting; these companies are associated with high permanent book-tax differences due to nonconformity of financial and tax-reporting standards. This provides an indication of the existence of the relationship between firm valuation and permanent differences which could be due to the perception that permanent difference exhibits a company's ability to

conduct strategic tax planning. Therefore, shareholders are presumed to value the permanent differences component of tax saving. Similar to the above argument on incentives of conducting tax planning (in H_{1a}), the following hypotheses, hypothesis 2a to hypothesis 2e, focus on persistent profit-making companies. Hence, it is hypothesised (in alternative form) that:

> **Hypothesis 2a (H_{2a}):** Firm valuation is associated with the extent of tax saving from permanent differences of persistent profit-making companies.

The second component, temporary differences, which are derived from the deferral method of tax planning, could enlighten shareholders about companies' earnings quality (Hanlon, 2005; Frank *et al.*, 2009). Temporary differences are also of concern to shareholders as, according to Tran-Nam *et al.* (2000), this kind of tax saving could reflect an increase in cash flows. Based on these studies, it could be presumed that shareholders are likely to impound temporary differences in their valuation and, hence, it is hypothesised (in alternative form) that:

> **Hypothesis 2b (H_{2b}):** Firm valuation is associated with the extent of tax saving from temporary differences of persistent profit-making companies.

The third component, NOLs, is found by Atwood and Reynolds (2008) to be valued by shareholders in focusing on carry-forward NOLs presentation in the income statement. In addition, Amir and Sougiannis (1999) document a positive relationship between share price and carry-forward NOLs. Therefore, based on these studies, shareholders are expected to impound NOLs in their valuation and, thus, it is hypothesised (in alternative form) that:

> **Hypothesis 2c (H_{2c}):** Firm valuation is associated with the extent of tax saving from NOLs of persistent profit-making companies.

Foreign tax rates differentials, the fourth tax saving component, could be related to shareholders' valuation since, as claimed by Schmidt (2006), foreign tax rates differentials exhibit continuing and persistent effective tax planning activities, and forward-looking information for forecasting. Tax saving from this

differential is derived by MNC that have foreign operations in different tax jurisdictions. Due to greater tax planning opportunities as compared to other companies (as explained in Chapter 2), the MNC, as claimed by Dyreng and Lindsey (2009), specifically those that have disclosed material operations in at least one tax haven country, experience a relatively lower worldwide tax burden. The relationship between this tax saving component and shareholders' valuation is documented by Bauman and Shaw (2008) who specifically indicate that disclosed repatriation tax liabilities are more relevant to shareholders' pricing decision than estimated repatriation tax of non-disclosing firms. Therefore, based on these researchers' work, shareholders are expected to weigh tax saving from foreign tax rates differentials and, hence, it is hypothesised (in alternative form) that:

> **Hypothesis 2d (H_{2d}):** Firm valuation is associated with the extent of tax saving from foreign tax rates differentials of persistent profit-making companies.

To test the hypothesis that any detected valuation relationship varies according to the type of tax saving of persistent profit-making companies (see H_{2a} to H_{2d}) the following hypothesis will be tested:

> **Hypothesis 2e (H_{2e}):** There is a difference in the relationship between market value and each of the four components of tax saving (i.e. permanent differences, temporary differences, NOLs and foreign tax rates differentials) of persistent profit-making companies.

To test the hypotheses relating to the relationships between firm value and components of tax saving of non-persistent profit-making companies, the following hypotheses will be tested (in alternative form):

> **Hypothesis 2f (H_{2f}):** Firm valuation is associated with the extent of tax saving from permanent differences of non-persistent profit-making companies.

Hypothesis 2g (H_{2g}): Firm valuation is associated with the extent of tax saving from temporary differences of non-persistent profit-making companies.

Hypothesis 2h (H_{2h}): Firm valuation is associated with the extent of tax saving from NOLs of non-persistent profit-making companies.

Hypothesis 2i (H_{2i}): Firm valuation is associated with the extent of tax saving from foreign tax rates differentials of non-persistent profit-making companies.

To test the hypothesis that any detected valuation relationship varies according to the type of tax saving of non-persistent profit-making companies (see H_{2f} to H_{2i}) the following hypothesis will be tested:

Hypothesis 2j (H_{2j}): There is a difference in the relationship between market value and each of the four components of tax saving (i.e. permanent differences, temporary differences, NOLs and foreign tax rates differentials) of non-persistent profit-making companies.

5.2.2 Firm Value, Tax Planning and Corporate Governance

Consistent with discussions about corporate governance mechanisms in Chapter 3, the hypotheses development in this section is structured so as to examine corporate governance's moderating influence on the firm value-tax planning relationship. The relationship between these three dimensions is important since corporate governance could better explain the association between tax planning and firm value (Desai and Dharmapala, 2009). The literature review in Chapter 4 presents mixed results from previous studies on this relationship (Desai and Dharmapala, 2009; Hanlon and Slemrod, 2009; Wilson, 2009; Chen *et al.*, 2010). In line with the above hypotheses' development structure (H_{1a}-H_{2d}), corporate governance is hypothesised as moderating the relationship between firm value and tax planning in terms of persistent profit makers, non-persistent profit

makers and components of tax saving due to varying levels of agency costs. Therefore, the following hypothesis will be further tested (in alternative form):

> **Hypothesis 3a (H_{3a}):** The relationship between firm value and the extent of tax planning activities by persistent profit-making companies is moderated by companies' corporate governance.

In terms of non-persistent profit-making companies, corporate governance is expected to moderate the relationship between firm value and the extent of the companies' tax planning differently as compared to the other firms. This is due to the ability of the reporting profit to influence shareholders' perception of managers' performance (Scholes and Wolfson, 1992; Tzovas, 2006) in which the fluctuating reporting profits would indicate managers' poor performance in managing the companies. In other words, managers of non-persistent profit-making companies are perceived as not performing in the best interest of the shareholders. Consequently, based on the non-persistent reporting profit, shareholders of these companies are presumed to doubt the ability of the companies' corporate governance practice to reduce the costs and risks of tax planning. Therefore, the moderating influence of corporate governance on the relationship between firm value and tax planning is expected to differ between persistent and non-persistent profit-making companies. Thus, corporate governance practice is expected to moderate the relationship between firm value and tax planning of non-persistent profit making companies and, hence, it is hypothesised (in alternative form) that:

> **Hypothesis 3b (H_{3b}):** The relationship between firm value and the extent of tax planning activities by non-persistent profit-making companies is moderated by companies' corporate governance.

To test the hypotheses relating to the moderating effects of corporate governance on the relationships between firm value and components of tax saving, the following hypotheses will be tested (in alternative form):

Hypothesis 4a (H_{4a}): The relationship between firm value and the extent of tax saving from permanent differences of persistent profit-making companies is moderated by companies' corporate governance.

Hypothesis 4b (H_{4b}): The relationship between firm value and the extent of tax saving from temporary differences of persistent profit-making companies is moderated by companies' corporate governance.

Hypothesis 4c (H_{4c}): The relationship between firm value and the extent of tax saving from foreign tax rates differentials of persistent profit-making companies is moderated by companies' corporate governance.

Hypothesis 4d (H_{4d}): The relationship between firm value and the extent of tax saving from NOLs of persistent profit-making companies is moderated by companies' corporate governance.

To test the hypotheses relating to the moderating effects of corporate governance on the relationships between firm value and components of tax saving of non-persistent profit-making companies, the following hypotheses will be tested (in alternative form):

Hypothesis 4e (H_{4e}): The relationship between firm value and the extent of tax saving from permanent differences of non-persistent profit-making companies is moderated by companies' corporate governance.

Hypothesis 4f (H_{4f}): The relationship between firm value and the extent of tax saving from temporary differences of non-persistent profit-making companies is moderated by companies' corporate governance.

Hypothesis 4g (H_{4g}): The relationship between firm value and the extent of tax saving from foreign tax rates differentials of non-persistent profit making-companies is moderated by companies' corporate governance.

Hypothesis 4h (H_{4h}): The relationship between firm value and the extent of tax saving from NOLs of non-persistent profit-making companies is moderated by companies' corporate governance.

5.3 Conclusions

This chapter has been developed based on the understanding obtained in Chapters 2, 3 and 4. This chapter has been constructed with the intention to provide an explanation of the underlying theories and hypotheses development of this study. This chapter begins with a discussion of the theories that underpin the hypotheses development. The following section, hypotheses, is constructed based on the discussions in Chapters 2, 3 and 4 and the underlying theories of tax planning and corporate governance.

In understanding the research problem, the Scholes-Wolfson framework and agency theory are referred to as respectively applying previous knowledge on tax planning and corporate governance. As this study attempts to investigate the relationship between firm value and tax planning whilst simultaneously considering corporate governance as a moderating influence, the hypotheses are developed in two parts: firstly, firm value and tax planning, and secondly, firm value, tax planning and corporate governance. The hypotheses are also developed so as to test the influence of earnings persistency and components of tax saving. Overall, 22 hypotheses will be tested to examine the relationships between the interested variables, which include, for example, share price, tax saving and corporate governance. Consequently, the following chapter, Chapter 6, will provide explanations of the variables in particular measurements and data collection.

Chapter 6

Data Collection and Variables Measurements

This chapter focuses on the sample framework, estimation model development and variables measurements. It begins with sample selection and data sources of the data collection and is followed by estimation model development. The estimation model was developed based on Ohlson's clean surplus accounting valuation model (Ohlson, 1995). Subsequently, this chapter continues with the explanation of the variables measurements. The summary of the variables measurements is presented in the appendix in order to ease the understanding of the interested and control variables.

6.1 Sample Selection and Data Sources

This study employs a panel dataset of a large sample of publicly-traded U.K. companies. The sample frame is non-financial public companies that are listed in the main market of LSE. The sample frame was selected due to the availability of public access to the companies' financial and corporate governance information, since U.K.-listed companies are required to publicly publish their annual reports shortly after the year-end (Financial Services Authority, 2009). The sample

frame focuses only on the main market since companies listed under Alternative Investment Market (AIM) are "young growing companies"[48] and, therefore, the companies may tend to have low ETR due to the losses at the initial business start-up instead of tax planning activities. Therefore, in order to ensure the authenticity of effective tax planning measures, companies under AIM are excluded. The sample frame concentrates only on non-financial companies because financial companies have specific regulations which may affect the relationship between tax planning and market value. In more general terms, this exclusion follows normal practice when using Ohlson-based valuation models because of asset measurement issues (O'Hanlon and Taylor, 2007).

The data was assembled over a three-year sample period from 2005 until 2007. However, 2004 data was also collected to use as prior-year information, specifically for scaling purposes.[49] The period was chosen to reflect the most current available data. In addition, the sample period was selected to consider authorities' risk assessment of large companies. Risk assessment has been highlighted in *Reducing Administrative Burdens: Effective Inspection and Enforcement*, i.e. "*The Hampton Review*" (Hampton, 2005) as an alternative to reducing authorities' administrative burdens. The Hampton Review was published in March 2005 with the objective *"to identify ways in which the administrative burden of regulation on businesses can be reduced while maintaining or improving regulatory outcomes"* (Hampton, 2005: 3). The review also highlights responses of tax authorities towards the risk assessment in which the HMRC introduced a proper assessment of non-compliance risks prior to any inspection. The assessment is further documented and detailed in The Varney Report (Varney, 2006) in reviewing the relationship between large businesses and the HMRC. In managing its relationship with businesses, HMRC provides

[48] *"Established in 1995, AIM is the London Stock Exchange's international market specifically designed for smaller, growing companies. The market combines the benefits of a public flotation with appropriate levels of regulation – a principles-based regulatory approach together with high standards of disclosure – meeting the needs of international investors. There are currently over 1,600 companies on AIM with a combined market capitalisation of over £100 billion, of which £55 billion is held by institutional investors. AIM's regulatory model has enabled its companies to achieve long-term investment; of the £52.7 billion raised by AIM companies in the 12 years since launch, £22.9 billion was raised by companies subsequent to joining the market"* (source: http://www.londonstockexchange.com/about-the-exchange/media-relations/press-releases/2007/aimstudyidentifieskeystosuccess.htm).

[49] Details on scaling will be discussed in the variables measurements section.

guidelines that recommend that companies have a proper formal tax policy (HMRC, 2009). The policy is suggested to include companies' tax-related information, consisting of tax strategy level, operating principles and tax guidelines, and this policy has to be approved by the board of directors. This indicates the importance of directors' role in companies' tax matters. In addition, it also highlights HMRC's expectation on directors' responsibility towards companies' tax issues. Therefore, in order to reflect the risk assessment by the authorities, the sample period was determined to start from 2005. In addition, 2005 is the appropriate year to reflect HMRC's more aggressive approaches to reducing tax avoidance among large businesses (The Chartered Institute of Taxation, 2007). These actions could influence companies' tax planning strategies and shareholders' and directors' awareness of tax planning risks.[50]

The dataset of this study can be classified into four types of data: firstly, financial and market data; secondly, industry classification; thirdly, taxation data; and finally, corporate governance data. All of the data are archival in nature and have been published by companies. The financial and market data, for example sales, book value of equity and market value of equity, were obtained from *Datastream* database.[51] Data on the industry classification were initially based on LSE's industrial classification. Since the distributions of the companies across the industry classifications were highly unbalanced between the large numbers of categories, the industries were then condensed based on Financial Times Stock Exchange (FTSE)/Dow Jones (DJ)'s industry classification benchmark. Table 6.1 presents the distribution of the sample companies according to industry classification by LSE and FTSE/DJ.[52]

[50] HMRC has made significant changes to the compliance structure since 2005 which was the year when HMRC was established (combination of Inland Revenue and Customs & Excise). The modification of the structure includes changes to several units including Special Compliance Office, Large Business Service and Anti-Avoidance Group (see The Chartered Institute of Taxation, 2007).

[51] This database is provided by Thomson Reuters and the version that is used is Thomson *Datastream Advance for Office (AFO)* which covers time-series and static data.

[52] The available non-financial companies exclude companies with more than 12 months accounting period, insufficient ETR data, negative book value, "zero" sales, "extreme" value of ETR and negative tax charge. This sample selection information is detailed in the sample selection table and its description.

Table 6.1

Industry Classification by LSE and FTSE/DJ

LSE's Industry Classification	No of co.	FTSE/DJ's Industry Classification	No. of co
Oil and gas producers	11	Oil and gas	14
Oil equipment, services and distributions	3		
Chemicals	8	Basic materials	16
Mining	8		
Aerospace and defence	8	Industrials	90
Construction and materials	13		
Electronic and electrical equipment	9		
General industrials	6		
Industrial engineering	11		
Industrial transportation	4		
Support services	39		
Automobiles and parts	2	Consumer goods	29
Beverages	2		
Food producers	7		
Household goods	9		
Leisure goods	3		
Personal goods	4		
Tobacco	2		
Health care equipment and services	5	Health care	14
Pharmaceutical and biotechnology	9		
General retailers	16	Consumer services	49
Media	14		
Travel and leisure	19		
Fixed line telecommunications	2	Telecommuni-cations	2
Electricity	2	Utilities	4
Gas, water and multi-utilities	2		
Software and computer services	12	Technology	22
Technology hardware and equipment	10		
Total	240	Total	240

The third type of data, taxation data, which includes tax expense and tax reconciliation information, was hand-collected from companies' annual reports, specifically from the tax section in notes to the accounts. For verification purposes, profit before tax was collected from both *Datastream* and tax notes, and cross-checked.

Finally, corporate governance data, which consists of information on companies' board of directors (except multi-directorship data) and ownership, were gathered from *Hemscott Company Guru Database*.[53] For verification purposes, the list of directors who served the companies was compared with companies' annual reports. Subsequently, corrections based on the annual report were made for any detected conflicting information. As the data on multi-directorship was not available from the database, the *Corporate Register* was used to collect that particular data.[54] To ensure the accuracy of the data, this data was sample-cross-checked with the companies' annual reports. Table 6.2 exhibits a summary of the data sources.

Table 6.2

Data Sources

Type of Data	Source	Extracted Information
Financial and market data	*Datastream*	Market value, book value of equity, profit before tax, accounting year-end, number of ordinary shares, sales, dividend payout ratio, long-term debt, total assets, percentage of foreign sales over total net sales, cash flow from operating, gross machinery and equipment and net proceeds from sale/issue of common and preferred shares
Industry	LSE classification and collapsed based on FTSE/DJ's industry classification benchmark	LSE: List of companies with industry classification for the sample period FTSE/DJ: List of industry as listed in the benchmark together with the details of sub-sectors
Taxation data	Notes to the accounts of financial statements	Tax expense and tax reconciliation
Corporate governance data	*Hemscott Company Guru Database*, annual reports and *Corporate Register*	Chairman, chief executive officers, directors' ownership, institutional ownership, number of directors on board, non-executive directors, number of boards being served by the directors and directors' remuneration.

[53] The database is provided by Hemscott Group Limited based on online research service which covers 2,500 U.K.-registered and nearly 500 non-U.K.-registered LSE-listed companies.
[54] *Corporate Register*, compiled by PriceWaterhouseCoopers and quarterly published by HS Financial Publishing, contains information on companies' directors, which includes a list of directors and companies that the directors currently and previously served.

The sample selection process commenced with public listed companies that were only listed throughout the sample period of 2005-2007. The total number of companies derived from this process was 1,419. Companies with negative book value of equity, "zero" sales and extreme value of ETR were excluded from the sample. The elimination of negative book value of equity is due to its limited economic meaning since the book value of equity is utilised to indicate size, abandonment value and expected future normal earnings (Collins, Pincus and Xie, 1999). Similarly, a company with "zero" sales was also excluded to control the economic factors in the sense of financial distress and non-standard sales. Further, companies with extreme value of ETR were excluded to control the bias of *"large, nonrecurring statutory reconciliation items such as the effects of a business dispositions and asset impairments, and decreases in the deferred tax asset valuation allowance"* (Phillips, 2003: 858). Thus, companies with ETR value of more or less than one (+1) or negative one (-1) were eliminated from the sample. In addition, as the extent of the tax credit depends on factors other than the current year taxable income, negative tax charged (tax credit) companies were excluded to control the influence of carried-back current year tax losses and brought-forward previous written-off tax losses.

The sample consists of persistent and non-persistent profit-making companies which was categorised into firstly, the persistent profit-making companies and secondly, both persistent and non-persistent profit-making companies. This categorisation is essential to test the hypotheses related to earnings persistence propositions. The first category, persistent profit-making companies, consists of balance company-year data of profit-making companies in which the sample was restricted only to profit makers throughout the sample period. This restriction is intended to control and minimise the effects of losses on the tax planning variable.[55] The restriction could also indicate the long-term survivorship of the companies and where such companies may have a stronger incentive to carry out tax planning activities (Mills *et al.*, 1998).

[55] The exclusion of loss observations or years could also control confounding denominator effect in which, as explained in the following variable measurement section, ETR, as a component of the tax planning measure, was calculated by scaling the current tax expense with PBT. Therefore, the exclusion could avoid errors in ETR calculation due to negative sign of profit before tax (denominator).

The second category, persistent and non-persistent profit-making companies, consists of unbalance company-year data of profit-making companies. For this category, all of the companies (profitable and non-profitable) were firstly scrutinised to consider only the observations that exhibit profit before tax in the year 2005. For example, in the case of companies that exhibited negative PBT in 2005, the companies' data (2005-2007) were excluded from the analysis. Secondly, for companies that exhibited negative PBT in only 2006, data of 2006 and 2007 were excluded from the analysis. Finally, for companies that exhibit negative PBT in only 2007, the 2007 data were excluded from the analysis. By applying this restriction, loss observation in a year was excluded together with the observations of its subsequent year(s). In other words, in deriving the second category of companies, the first year of loss observation and its subsequent year(s) (either profit or loss) were eliminated. Therefore, the second category comprises both persistent and non-persistent profit-making companies and, for the purpose of the analysis, these companies were coded as "1" for non-persistent profit-making companies and "0" for persistent profit-making companies. Table 6.3 displays the sample selection process of the two categories of companies. In short, persistent profit makers can be inferred as a subset of combined persistent and non-persistent profit makers.

Table 6.3

Sample Selection

Details	Number of Observations	Number of Companies
Public listed companies (listed throughout the period)		1419
Finance companies		(580)
Non-main market		(413)
Not available in *Datastream*		(32)
At least one year of annual report was not available		(59)
Accounting period of more than 12 months		(4)
Insufficient ETR data (not available or in percentage)		(29)
Negative book value of equity		(24)
"Zero" sales		(1)
Extreme value of ETR		(19)
Negative tax charge		(18)
	720	240
Current and subsequent loss observation	(110)	
Persistent and non-persistent profit-making companies	610	
Unbalance data	(22)	
Persistent profit-making companies	588	196

6.2 Estimation Models Development

The estimation models of this study are based on Ohlson's market valuation model (Ohlson, 1995). This study extends the model by incorporating tax-related variables and other firm-specific control variables. This section explains in detail about the underlying assumptions of the model.

6.2.1 Theoretical Model

The empirical analysis in this study is based on Ohlson's firm valuation model (Ohlson, 1995) in which the model, under clean surplus accounting relation,

examines the association between firm market value and accounting data.[56] Ohlson's valuation model is a standard valuation model used in the accounting literature and has been extensively used by subsequent researchers, for example O'Hanlon (1995), Rees (1997), O'Hanlon and Pope (1999), O'Hanlon and Taylor (2007) and Horton (2008) in U.K. studies, Collins *et al.* (1999) in a U.S. study, and Zeng (2003) and Zeng (2006) in Canadian studies.

Ohlson's valuation model demonstrates a firm's market value of equity (a level market price data) as a function of net book value and the future expected earnings. Rees (1997) highlights that a level valuation model, for example Ohlson's model, is suitable for accounting valuation study, as compared to a return model, for three reasons. Firstly, as compared to the return model, the level model avoids the problem of influence of change variables, for example changes in accounting practices and changes in capital structure. Secondly, the level model is not sensitive to accumulated return as compared to the return model, in which the level data only reacts to available information in the current price instead of accumulated information. Thirdly, the level model is more appropriate than the return model since the level model considers long-run relationships due to the function of expected future items instead of accumulated historical items as considered in the return model. In addition, the use of return model also requires the calculation of expected and subsequently unexpected components of any information disclosure. The level model is also considered appropriate for application in this study as it has significantly contributed to the understanding of valuation relevance knowledge based on the fundamental dividend capitalisation model (O'Hanlon, 1995).

Based on three analytical underlying assumptions, Ohlson's valuation model is exhibited as follows:

$$P_t = y_t + \sum_{\tau=1}^{\infty} R_f^{-\tau} E_t\left(x_{t+\tau}^a\right)$$

[56] The relationship is regarded as clean surplus relation since "all changes in assets/liabilities unrelated to dividends must pass through the income statement".

Where:

P_t = Market value of firm's equity at time t

y_t = Firm net book value at time t

R_f = Risk-free rate plus one

E_t = Expectation operator

x_t^a = Abnormal income at time t

The underlying assumptions of the model are related to present value of expected future dividend, clean surplus relation and stochastic time-series behaviour of abnormal earnings. The assumptions are exhibited by the following three equations:

Assumption 1: Present value of expected dividend determines market value.

$$P_t = \sum_{\tau=1}^{\infty} R_f^{-\tau} E_t(D_{t+\tau}) \quad (1)$$

Where D_t = Net dividend paid at time t.

In this assumption, the shareholders are believed to invest in the company so as to receive the dividends on their shares. Therefore, the discounted dividend is claimed as representing the company share price.

Assumption 2: Accounting data and dividends satisfy the clean surplus relation where the change in net asset for a period reflects the retained net profit shown in the period's income statement. This assumption is based on a regular owner's equity accounting as follows:

$$x_t = y_t - y_{t-1} + D_t \quad (2)$$

Where x_t = Earnings at time t.

Following the basic accounting computation to determine the book value of equity at the year-end, the equation in assumption 2 computes the current earnings by adding the dividend to the difference between the opening and closing book value of equity.

Assumption 3: Stochastic time-series behaviour of expected earnings is structured by a linear model as follows:

$$x_t^a = x_t - (R_f - 1)(y_{t-1}) \quad (3)$$

This assumption explains the abnormal income as a result of current earnings less the risk-free portion of opening book value of equity. This equation also implies a linear relationship between both current earnings and the risk-free portion of opening book value of equity, and the abnormal income.

Based on the above assumptions, share price is explained as a function of current book value and expected future abnormal earnings. Ohlson (1995) highlights that researchers also refer to the abnormal earnings as residual income. Therefore, to derive after-tax abnormal income, one should deduct the tax components from the x_t^a, i.e. $x_t^a(1-STR)+x_t^a TS$ of which TS is the tax saving that is computed as the difference between statutory tax rates (STR) and ETR. In other words, after-tax abnormal income can be explained as a function of net abnormal income after STR plus the tax saving. As STR across this study's sample period were constant, i.e. 30 per cent, the abnormal income net of STR empirically represents before-tax abnormal income of the companies.

In dealing with expected future term of the variables (t+1), with reference to Collins *et al.* (1999), by substituting the function of book value at time t (BVE_t) and the function of abnormal earnings in the Ohlson's valuation model, the model could be rewritten as $MVE_t = BVE_t + x_t^a + v_t$ where v_t is referred to other non-accounting value-relevant information and MVE is referred to market value of equity. The model is derived from the stochastic process assumption for abnormal earnings in which,

$$x_{t+1}^a = \omega x_t^a + v_t + \varepsilon_{1t+1} \quad (4)$$

By substituting (4) in Ohlson's valuation model, the model can be rewritten as follows:

$$MVE_t = BVE_t + x_t^a + v_t \quad (5)$$

As Ohlson (1995) assumes that v_t has no significant dependency on BVE and x^a, v_t is assumed to be "zero" and hence has been omitted in the estimation model (O'Hanlon and Pope, 1999; Stober, 1999; O'Hanlon and Taylor, 2007; Horton, 2008). This omission is also related to the difficulty in measuring v_t in explaining MVE (Dechow, Hutton and Sloan, 1999). Thus, market value can be explained as a function of book value at time t and abnormal income at time t.

In terms of risk term (R) in Ohlson's model, several previous pieces of literature, for example Zeng (2003), measure this term as risk-free interest rate while others refer to it as cost of capital, for example, Stark and Thomas (1998). In applying Ohlson's model in investigating the relationship between residual income and firm value of U.K. firms, Stark and Thomas (1998) assume this term as constant since the empirical evidence highlights that the measure does not explain the cross-section difference of expected returns. Consistent with these authors, the term in this study is also assumed to be constant across companies and thus is not explicitly included in the estimation model.

Ohlson's model is based on the clean surplus accounting relation assumption that all transactions that affect book value are incorporated in income statement. However, the existence of a clean surplus relationship is dependent upon the format of accounting standards. Income measures which depart from the clean surplus relationship are known as "dirty surplus". O'Hanlon and Pope (1999) examine the value relevance of "dirty surplus" items, i.e. items that affect shareholder equity but which have not been included in the income statement for a U.K. sample of firms over a 20-year period. The researchers, however, find little evidence on the value relevance of "dirty surplus" items. Therefore, "dirty surplus" items are not excluded from the earnings variable of the estimation model as they have less effect on the market value as a subsequent effect of reduced ability to predict future earnings, dividend or book value (Kallapur and Kwan, 2004). This is also consistent with Stark's (1997) analytical work which indicates that "dirty surplus", if irrelevant for valuation purposes, can be considered to be aggregated in a single whole component of earnings.

6.2.2 Estimation Models

The Ohlson model was subsequently refined by disaggregating the expected earnings component. This section explains this process in detail, which leads to the following model:

$$MVE_t = BVE_t + \sum_{\tau=1}^{\infty} R^{-\tau} E_t\left((x^a_{t+\tau} - x^a_{t+\tau} STR_{t+\tau}) + (x^a_{t+\tau} STR_{t+\tau} - x^a_t ETR_{t+\tau})\right) + \sum_{\kappa=1}^{n} FSC^k_t$$

Where:

MVE_t = Market value of equity at time t

BVE_t = Book value of equity at time t

x^a_t = Abnormal income at time t

STR_t = STR at time t

ETR_t = ETR at time t

FSC_t = Firm-specific characteristics at time t

6.2.2.1 Development Process

By replacing MVE_t to represent P_t in equation (1) above, the equation is written as follows:

$$MVE_t = \sum_{\tau=1}^{\infty} R_f{}^{-\tau} E_t(D_{t+\tau}) \quad (6)$$

The dividend, D_t, is the net of profit after tax less retained profit. Therefore, D_t could be expressed by the following accounting equation:

$$D_t = PBT_t - (PBT_t STR_t - PBT_t TS_t) - RP_t \quad (7)$$

Where:

PBT_t = Profit before tax at time t

TS_t = Tax saving at time t (difference between STR and ETR)

RP_t = Retained profit at time t

Substituting equation (7) into equation (6) yields the following:

$$MVE_t = \sum_{\tau=1}^{\infty} R_f^{-\tau} E_t(PBT_{t+\tau} - PBT_{t+\tau} STR_{t+\tau} + PBT_{t+\tau} TS_{t+\tau} - RP_{t+\tau}) \quad (8)$$

Therefore, equation (8) explains the present value of expected future dividends as the net of profit after tax from retained profit.

Equation (2) presents Ohlson's current earnings assumption on a regular owner's accounting equity. By replacing PAT_t and BVE_t to respectively present x_t and y_t in equation (2) above, the equation is refined as follows:

$$PAT_t = BVE_t - BVE_{t-1} + D_t \quad (9)$$

Where:

PAT_t = Profit after tax at time t

Similar to the above process, replacing PAT_t and BVE_t to respectively present x_t and y_t in equation (3), i.e. on current residual earning in Ohlson's assumption of stochastic time-series behaviour, yields the following:

$$x_t^a = PAT_t - (R_f - 1)(BVE_{t-1}) \quad (10)$$

Subsequently, by substituting (9) in (10), the following equation is derived:

$$x_t^a = BVE_t - BVE_{t-1} + D_t - (R_f - 1)(BVE_{t-1}) \quad (11)$$

As D_t in equation (7) is explained as a function of PBT_t net of tax and RP_t, substituting (7) in (11) leads to the following:

$$x_t^a = BVE_t - BVE_{t-1} + PBT_t - PBT_t(STR_t - TS_t) - RP_t - (R_f - 1)BVE_{t-1}$$

This is simplified and rearranged as follows:

$$x_t^a = BVE_t - BVE_{t-1} + PBT_t - PBT_tSTR_t + PBT_tTS_t - RP_t - R_fBVE_{t-1} + BVE_{t-1} \quad (12)$$

By disaggregating the tax components in the x_t^a and rearranging the equation so as to be the function of RP, the following equation is derived:

$$RP_t = BVE_t + PBT_t - PBT_tSTR_t + PBT_tTS_t - R_fBVE_{t-1} - x_t^a + x_t^aSTR_t - x_t^aTS_t \quad (13)$$

Substituting (13) in (8), as presented in the following process, leads to equation (14):

$$MVE_t = \sum_{\tau=1}^{\infty} R_f{}^{-\tau} E_t \begin{pmatrix} PBT_{t+\tau} - PBT_{t+\tau}STR_{t+\tau} + PBT_{t+\tau}TS_{t+\tau} - BVE_{t+\tau} - \\ PBT_{t+\tau} + PBT_{t+\tau}STR_{t+\tau} - PBT_{t+\tau}TS_{t+\tau} + R_f BVE_{t-1+\tau} + \\ x^a_{t+\tau} - x^a_{t+\tau}STR_t + x^a_{t+\tau}TS_{t+\tau} \end{pmatrix}$$

$$MVE_t = \sum_{\tau=1}^{\infty} R_f{}^{-\tau} E_t \left(- BVE_{t+\tau} + R_f BVE_{t-1+\tau} + x^a_{t+\tau} - x^a_{t+\tau}STR_{t+\tau} + x^a_{t+\tau}TS_{t+\tau} \right)$$

$$MVE_t = \sum_{\tau=1}^{\infty} R_f{}^{-\tau} E_t \left(R_f BVE_{t-1+\tau} - BVE_{t+\tau} + x^a_{t+\tau} - x^a_{t+\tau}STR_{t+\tau} + x^a_{t+\tau}TS_{t+\tau} \right)$$

$$MVE_t = R_f{}^{-1} E_t \left(R_f BVE_{t-1+1} - BVE_{t+1} + x^a_{t+1} - x^a_{t+1}STR_{t+1} + x^a_{t+1}TS_{t+1} \right)$$

$$+ R_f{}^{-2} E_t \left(R_f BVE_{t-1+2} - BVE_{t+2} + x^a_{t+2} - x^a_{t+2}STR_{t+2} + x^a_{t+2}TS_{t+2} \right) + \ldots$$

$$MVE_t = BVE_t + \sum_{\tau=1}^{\infty} R_f{}^{-\tau} E_t \left((x^a_{t+\tau} - x^a_{t+\tau}STR_{t+\tau}) + (x^a_{t+\tau}STR_{t+\tau} - x^a_t ETR_{t+\tau}) \right) \qquad (14)$$

In controlling the effects of firm-specific characteristics, it is important to relax some of the underlying Ohlson valuation model's assumptions. One of the assumptions is related to information asymmetry in which the Ohlson model assumes that the information asymmetry between management and shareholders is absent. However, previous literature argues that information asymmetry not only exists but is also correlated to dividend and equity returns (Rees, 1997; Hand, Landsman and Building, 2005). Therefore, the equation is further modified to accommodate the firm-specific characteristics variables, FSC_t, and hence, the equation model is written as the following:

$$MVE_t = BVE_t + \sum_{\tau=1}^{\infty} R^{-\tau} E_t \left((x^a_{t+\tau} - x^a_{t+\tau}STR_{t+\tau}) + (x^a_{t+\tau}STR_{t+\tau} - x^a_t ETR_{t+\tau}) \right) + \sum_{\kappa=1}^{n} FSC_t^k$$

The components of FSC variable will be discussed subsequently.

As the future abnormal income or residual income cannot readily be estimated, previous pieces of literature, for example O'Hanlon (1995), O'Hanlon and Taylor (2007) and Horton (2008) in U.K. studies, and Zeng (2003) in a Canadian study, proxy the future abnormal incomes as the latest net profit after tax and thus, in the estimation model, the component of the residual income is redefined so as to reflect the profit after tax with the inclusion of tax components that are STR and tax saving. Therefore, the model is rewritten as the following:

$$MVE_t = BVE_t + \sum_{\tau=1}^{\infty} R^{-\tau} E_t\left((PBT_{t+\tau} - PBT_{t+\tau}STR_{t+\tau}) + (PBT_{t+\tau}STR_{t+\tau} - PBT_{t+\tau}ETR_{t+\tau})\right)$$
$$+ \sum_{\kappa=1}^{n} FSC_t^k$$

As explained in section 6.2.1, as the STR is constant at 30 per cent across the sample period, the PBT net of STR, i.e. $PBT_{t+\tau} - PBT_{t+\tau}STR_{t+\tau}$, empirically represents PBT of the companies. Therefore, the PBT net of STR is further defined as PBT in the following sections.

In addition to the above, the model is further refined in the sense of expected future term. Equation (5) in section 6.2.1 shows that the expected future items (at time t+τ) can be explained as the current item (t). Therefore, in the following sections, the items at time t+τ in the estimation models are written as items at time t.

6.2.2.2 Concepts and Empirical Applications

Previous researchers have provided further explanations of the estimators of the valuation model. Based on these explanations, the concepts of the estimation model of this study are drawn.

6.2.2.2.1 Alternative Specifications and Measurements

As highlighted in the above discussions, the estimation model of this study extends Ohlson's model not only by integrating tax-related variables but also by considering firm-specific characteristics, for example industry classification, capital intensity and leverage. In addition, the continuous variables in the model are scaled to control for scaling effects. This is explained in detail in the scaling effect section.

In order to control the firm-specific characteristics, this study includes several variables that have been found by previous researchers to be important in explaining cross-sectional differences in firm valuation. This is further explained

in detail in the following sub-section about firm-specific characteristics. Basically, the estimation model is as follows:

$$MVE_{it+3months} = \beta_0 + \beta_1 BVE_{it} + \beta_2 PBT_{it} + \beta_3 TS_{it} + \beta_4 CC_{it} + \beta_5 EM_{it} + \beta_6 CAPINT_{it} + \beta_7 LEV_{it} + \beta_8 DIV_{it} + \beta_9 FS_{it} + \sum_{n=10}^{16} \beta_n INDDUM_{it} + \varepsilon_{it} \quad (15)$$

Where:

$MVE_{it+3months}$	=	Market value of equity after 3 months of company i's year-end (t)*
BVE_{it}	=	Book value of equity of company i at time t*
PBT_{it}	=	Profit before tax of company i at time t*
TS_{it}	=	Tax saving of company i at time t*
CC_{it}	=	Capital contribution of company i at time t*
EM_{it}	=	Earnings management of company i at time t*
$CAPINT_{it}$	=	Capital intensity of company i at time t
LEV_{it}	=	Leverage of company i at time t
DIV_{it}	=	Dividend payout ratio of company i at time t
FS_{it}	=	Level of foreign sales of company i at time t
$INDDUM_{it}$	=	Industry dummy of company i at time t
ε_{it}	=	Error term

** Scaled by BVE_{t-1} (refer to the following scaling effect sub-section)*

Market Value of Equity

Market value of equity is measured as market value after three months from the companies' accounting year-end to reflect the lag in disclosure to shareholders, since U.K. public listed companies are required to issue their preliminary statement of annual results shortly after the year-end (Financial Services Authority, 2009). Such measurement is also in line with recent U.K. valuation literature (for example O'Hanlon and Taylor, 2007; Horton, 2008; Oswald, 2008).[57] However, for the purpose of ensuring the robustness of the results, the sensitivity test using market value after six months (Rees, 1997; Stark and Thomas, 1998; O'Hanlon and Pope, 1999; Hughes, 2008) is also conducted.

[57] To test the sensitivity of the results upon the change of market value measure to an alternative measure that has been also used by previous researchers (Desai and Dharmaphala, 2009), the models are re-estimated using Tobin's Q as the dependent variable. This is explained in detail in the further test section of Chapter 7.

Tax Planning

This study measures tax planning as the amount of "tax savings" in profit terms, in which the variable is measured by multiplying PBT with the difference between STR and ETR. ETR is measured as a ratio of current tax expense on profit before tax in which the numerator excludes deferred tax expense to reflect "persistent" tax saving derived from strategic tax planning. The omission is also to control for the temporary effects of deferral taxation which may be related to earnings management (Hanlon, 2005; Frank *et al.*, 2009). However, in the refined definition of the variable, deferred tax expense is included to examine its influence on market value. ETR used in this study is in line with previous tax planning and tax burdens literature (for example Zimmerman, 1983; Porcano, 1986; Holland, 1998; Mills *et al.*, 1998; Rego, 2003; Dyreng *et al.*, 2008). It is appropriate for application in this study as compared to other measures, for example marginal tax rates and book-tax gap, since the information in computing the ETR is directly available from the financial statements and thus accessible by the shareholders (Stewart, 1981). As compared to marginal tax rates (MTR), ETR is more appropriate in measuring tax planning of the estimation model since the response variable is related to a level variable (market value at time t) instead of a return variable. In other words, ETR is suitable as compared to MTR as the dependent variable does not attempt to measure the change in market value as MTR does (De Jong, Kabir and Nguyen, 2008). ETR is also perceived to be appropriate as compared to book-tax gap measure (Desai and Dharmapala, 2009).[58] The ETR-based tax planning variable avoids measurement errors related to tax expense on foreign income and tax credit. This problem is raised by Hanlon (2003) as a potential measurement error when estimating taxable income in computing the book-tax difference.

[58] It can be shown algebraically that ETR is equivalent to book-tax gap measure used in the U.S. literature, for example, Desai and Dharmapala (2009):

ETR=(TI*STR)/PBT, where TI is taxable income
PBT*ETR=TI*STR
(PBT*ETR)/STR=TI
[(PBT*ETR)/STR]-PBT=TI-PBT
[(PBT*ETR)-(PBT*STR)]/STR=TI-PBT
[PBT(ETR-STR)]/STR=TI-PBT
PBT(ETR-STR)=(TI-PBT)STR
$\therefore$ ETR measure of tax planning is a pseudonym of book-tax gap measure of tax planning, and *vice-versa*.

Components of Tax Saving

As explained in Chapter 4 and Chapter 5, the pricing of tax planning could be further explained by the components of tax saving. Since the deviation of actual tax expense from statutory tax expense consists of permanent and temporary differences (Boatsman, Gupta and Weaver, 2002; Hanlon, 2005), the ETR reconciling items are firstly identified to reflect both components. In addition, based on previous studies, for example Dhaliwal Gleason and Mills (2004), Atwood and Reynolds (2008) and Bauman and Shaw (2008), items related to tax losses and foreign tax rates differentials are further separately classified. This disaggregation approach allows valuation testing of each component.

Para 81 IAS12 Income Taxes (World GAAP Info, 2009) requires a separate disclosure of reconciliation tax expense items to explain the relationship between statutory tax expense and effective tax expense. Based on this standard and the above-mentioned literature, the reconciling items are carefully classified into four main categories which consist of permanent differences, temporary differences, tax losses and foreign tax rates differentials. Items that can be categorised under more than one category (i.e. permanent differences or temporary differences) are controlled as unclassified items. Table 6.4 presents the classification of the ETR reconciling items (the descriptions of the reconciling items are based on those reported items in the published ETR reconciliation).

Table 6.4

Components of Tax Saving

Component	**ETR Reconciling Items**
Tax losses (TLOSS)	Tax effect on utilisation of previously unrecognised/not-utilised tax losses and other assets
	Tax effect of unrecognised/not-utilised losses
	Tax effect on utilisation/recognition of tax losses
Permanent differences (TPD)	Tax effect of income/expenses that are not taxable/allowable in determining taxable profit
	Permanent difference
	Associates and joint venture
	Rate change adjustment
	Withholding tax or secondary taxation
	Income tax suffered
	Tax on capital items
	Sale of property
	Share options/share base payments
Temporary differences (TTD)	Impairment of long leasehold property
	Tax benefit from goodwill deduction
	Exchange differences
	Timing differences
	Movement in unprovided/provided deferred tax
	Recognition of a deferred tax asset not previously recognised
	Deferred tax asset/liability not recognised
	Current year deferred tax
	Deferred tax on retirement benefit obligations
	Deferred taxation on unremitted earnings of overseas subsidiaries
	Prior period adjustments
	Adjustments in respect of equity accounted investments
	Pensions and post-retirement benefits
Foreign tax rates differentials (TFTR)	Subsidiaries operating in other jurisdictions
Unclassified items[59] (TUNC)	Credit/incentives/relief
	Tax on derivative financial instruments
	Other
	Restructuring and impairment
	Provisions/accruals/exceptional items

[59] Unclassified items represent ETR reconciliation items that could not be categorised under the other four categories due to the possibility of them being classified under more than one category (i.e. permanent difference and temporary difference). However, for the purpose of the robustness of the classification, this category is also separately regressed as permanent difference and temporary difference. This is further explained in the further tests section.

Incorporating these tax saving components in model (15) yields the following model:

$$MVE_{it+3months} = \beta_0 + \beta_1 BVE_{it} + \beta_2 PBT_{it} + \beta_3 TLOSS_{it} + \beta_4 TPD_{it} + \beta_5 TTD_{it} + \beta_6 TFTR_{it} + \beta_7 TUNC_{it} + \beta_8 CC_{it} + \beta_9 EM_{it} + \beta_{10} CAPINT_{it} + \beta_{11} LEV_{it} + \beta_{12} DIV_{it} + \beta_{13} FS_{it} + \sum_{n=14}^{20} \beta_n INDDUM_{it} + \varepsilon_{it} \quad (16)$$

Where:

$TLOSS_{it}$ = NOLs of ETR reconciling items of company i at time t*

TPD_{it} = Permanent differences of ETR reconciling items of company i at time t*

TTD_{it} = Temporary differences of ETR reconciling items of company i at time t*

$TFTR_{it}$ = Foreign tax rates differentials of ETR reconciling items of company i at time t*

$TUNC_{it}$ = Unclassified ETR reconciling items of company i at time t*

** Scaled by BVE_{t-1} (refer to the following scaling effect sub-section)*

Firm-Specific Characteristics

The remaining independent variables are related to firm-specific characteristics. These variables are to control for potential effects of tax-related factors, for example, capital intensity, leverage and the extent of foreign sales, on the tax planning measure. In order to ensure that the results on the coefficient estimate of tax planning variable is not driven by these factors, firm-specific variables, that were found by previous literature as directly or indirectly related to tax planning, are included as control variables. This inclusion is similar to Chen *et al.* (2010), who include firm-specific variables to control the fundamental effect of the hypothesised variable. As highlighted in model (15) above, the variables comprise capital contribution, earnings management, capital intensity, leverage, dividend, foreign sales and industry classification.

Capital contribution (CC) is significant in U.K. value relevance literature (for example Akbar and Stark, 2003; Hughes, 2008) since it indicates shareholders' investments in the company apart from their shareholdings. This is consistent with signalling theory (Akbar and Stark, 2003) in which, based on asymmetric

distribution information, positive capital contribution reveals information to the shareholders about an increase in the equity value. In line with Hughes (2008), capital contribution in this study is measured by net proceeds from the purchase and sale of common and preferred stock.

The next control variable, earnings management (EM), is included in order to control for manipulation of financial accounting items by managers due to, among other things, the intention that is based on contractual settings, for instance in terms of leverage, bonus plan and size (Holland and Jackson, 2004). This is in line with Healy and Wahlen's (1999) explanation that earnings management *"occurs when managers use judgement in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers"* (Healy and Wahlen, 1999: 368). Consistent with Healy (1985) and Phillips, Pincus and Rego (2003), earnings management in this study is measured based on total accrual measures which is derived by subtracting net cash flow form operation from PBT. This specifically controls for variation in the tax planning variable (TS) that arises from earnings management (Desai and Dharmapala, 2009).

The next firm-specific characteristics variable, capital intensity (CAPINT), is included to control the extent of machinery and equipment utilisation in the business activity. As discussed in Chapter 2, the capital intensity level correlates with tax planning activities in the sense of capital allowance and other incentives related to the capital expenditure. The relationship between tax planning and capital intensity has been exhibited by previous researchers (for example Gupta and Newberry, 1997; Derashid and Zhang, 2003) in which ETR is found to be negatively related to the level of companies' capital intensity. Capital intensity is also found to be positively related with tax planning investment expenditure (Mills *et al.*, 1998). Therefore, in order to control the impact of capital expenditure in tax planning, this variable is measured by the proportion of gross machinery and equipment to total assets. Plant and property are excluded from the measurement as capital allowances or tax incentives related to these assets

are smaller as compared to machinery and equipment and hence are less attractive for tax planning purposes.

LEV, a variable for leverage, is included to control interest tax shield. Leverage is found to be interrelated with tax planning since it could indicate the use of debt financing for the purpose of receiving higher interest tax shield (Porcano, 1986; Kim and Limpaphayom, 1998; Derashid and Zhang, 2003). This relationship is explained in detail in Chapter 2. Thus, consistent with previous studies, for example Mills *et al.* (1998), this variable is calculated by the proportion of long term debt to total assets.

The next control variable, foreign sales (FS), is a proxy for the extent of a company's involvement in multinational business. The inclusion of this variable is important as companies with a high level of multinational business activities may have greater opportunity to plan their tax. This method of tax planning is related to profit- or income-shifting in which, as explained in Chapter 2, MNC may plan their tax by transferring their profit or taxable income to lower tax jurisdictions. The relationship between tax planning and the extent of multinational activities has been empirically verified by previous researchers (for example Klassen *et al.*, 1993; Mills *et al.*, 1998; Rego, 2003). Therefore, in order to control the effect of the extent of multinational operations on cross-sectional difference, foreign sales variable is included as a control variable. FS expresses foreign sales as a percentage of net sales.

In addition to the above firm-specific characteristics, dividend (DIV) is also included in the estimation model in order to control signalling effects. From the companies' management perspective, dividend is an important tool for influencing shareholders' valuation of the performance of the managers in the presence of information asymmetry. Thus, as this could result in market failure (Akerlof, 1970; Curry *et al.*, 2007), DIV controls the cost of shareholders' misinterpretation due to signalling effects and information asymmetry. These arguments are consistent with Rees (1997) and Akbar and Stark (2003) who document positive relations between dividend and firm valuation. Therefore, consistent with Berkman, Bradbury, Hancock and Innes (2002), the dividend

variable in the model is measured as the percentage of dividend per share on earnings per share. This measure is suitable for reflecting management's signalling since, as explained by Berkman *et al.* (2002), high value of stock performance ratio indicates signalling by management in meeting companies' dividend expectations.

In order to control industry effects on the model, a series of industry dummies (INDDUM) is included as control variables in which the variables assume the heterogeneity of the samples. In addition, as highlighted in Chapter 2, an industry dummy could also indicate different tax planning opportunities across sectors (Mills *et al.*, 1998). The industry classification is based on FTSE/DJ industry classification benchmark, as discussed in the sample selection section (section 6.1).

Non-Persistent Profit-Making Companies

As highlighted in Chapter 5, the relationship between firm value and tax planning of non-persistent profit-making companies is separately tested to investigate the shareholders' valuation of tax planning activities by non-persistent profit makers. To examine this relationship, an interaction variable, NPSTDUMTS, is included in model (15). Therefore, the equation is written as follows:

$$MVE_{it+3months} = \beta_0 + \beta_1 BVE_{it} + \beta_2 PBT_{it} + \beta_3 TS_{it} + \beta_4 NPSTDUMTS_{it} + \beta_5 CC_{it} + \beta_6 EM_{it} + \beta_7 CAPINT_{it} + \beta_8 LEV_{it} + \beta_9 DIV_{it} + \beta_{10} FS_{it} + \sum_{n=11}^{18} \beta_n INDDUM_{it} + \varepsilon_{it} \quad (17)$$

Where $NPSTDUMTS_{it}$ is an interaction variable between non-persistent profit-making dummy (NPSTDUM) and tax saving (TS) of company i at time t, scaled by $BVE_{t-1,}$ (refer to the following scaling effect sub-section).

In testing the relationship between firm value and the individual components of tax saving of non-persistent profit-making companies, five interactive variables between NPSTDUM and the components are included.

$$MVE_{it+3months} = \beta_0 + \beta_1 BVE_{it} + \beta_2 PBT_{it} + \beta_3 TLOSS_{it} + \beta_4 TPD_{it} + \beta_5 TTD_{it} + \beta_6 TFTR_{it} + \beta_7 TUNC_{it} + \beta_8 NPSTDUM_{it}\_TLOSS_{it} + \beta_9 NPSTDUM_{it}\_TPD_{it} + \beta_{10} NPSTDUM_{it}\_TTD_{it} + \beta_{11} NPSTDUM_{it}\_TFTR_{it} + \beta_{12} NPSTDUM_{it}\_TUNC_{it} + \beta_{13} CC_{it} + \beta_{14} EM_{it} + \beta_{15} CAPINT_{it} + \beta_{16} LEV_{it} + \beta_{17} DIV_{it} + \beta_{18} FS_{it} + \sum_{n=19}^{25} \beta_n INDDUM_{it} + \varepsilon_{it} \quad (18)$$

Where:

$NPSTDUM_{it}\_TLOSS_{it}$ = Interaction between NPSTDUM and NOLs of ETR reconciling items of company i at time t*

$NPSTDUM_{it}\_TPD_{it}$ = Interaction between NPSTDUM and permanent differences of ETR reconciling items of company i at time t*

$NPSTDUM_{it}\_TTD_{it}$ = Interaction between NPSTDUM and temporary differences of ETR reconciling items of company i at time t*

$NPSTDUM_{it}\_TFTR_{it}$ = Interaction between NPSTDUM and foreign tax rates differentials of ETR reconciling items of company i at time t*

$NPSTDUM_{it}\_TUNC_{it}$ = Interaction between NPSTDUM and unclassified ETR reconciling items of company i at time t*

** Scaled by BVE_{t-1} (refer to the following scaling effect sub-section)*

Corporate Governance

As the aim of this study is to examine the moderating effect of corporate governance on tax planning valuation, the corporate governance variables are not based on individual governance mechanisms but rather on general corporate governance measures. These measures are developed using factor analysis and, to ensure the relevance of the measures towards current corporate governance practice, the applied mechanisms are based on recent U.K. corporate governance studies by Florackis (2008) and McKnight and Weir (2009).

Corporate governance mechanisms considered in this study mainly represent ownership structure, board structure and compensation structure. As explained in Chapter 3, ownership structure, which consists of managerial and institutional

ownerships, could be an effective mechanism to reduce agency conflict due to its ability to align owners' and managers' wealth objectives. However, previous studies document mixed empirical results on the ability of these mechanisms to minimise the agency problem. Managerial ownership is expected to monitor management behaviour in favour of the shareholders (Jensen and Meckling, 1976) since the management has a large interest in pursuing the business so as to increase their wealth. However, an excessive level of managerial ownership tends to lead to a greater agency problem, for example, insufficient efforts, private benefits emphasis and entrenchment at the expense of other shareholders (Florackis, 2008). Similarly, institutional shareholders might pursue their own objective at the expense of other shareholders since their ownership is below the 100 per cent level (Hart, 1995). In fact, in the U.K., the institutional shareholders are generally found to be passive and do not behave in the interests of shareholders (Goergen and Renneboog, 2001).

In addition, board structure that focuses on the proportion of non-executive directors to total directors, board size and duality leadership is also found to be significant in explaining the owners-management relationship. In contrast to Florackis (2008), this study concentrates only on non-executive directors and board size. Duality leadership is excluded from the analysis due to a common practice of U.K. publicly listed companies (i.e. 98 per cent of the observations). As explained in Chapter 3, non-executive directors are effective in mitigating the agency problem due to the constructive effects of directors' independence, professional knowledge and experience (Zahra and Pearce, 1989). Board size has been found to influence corporate governance in both positive and negative ways. Positively, large size is associated with skills, experience, greater opportunity in securing resources and establishing a favourable image, and restricting CEO domination (Zahra and Pearce, 1989). However, large size is also claimed to be associated with complicated coordination, communication and decision-making process (Florackis, 2008). In addition to non-executive director and board size, multi-directorship is also included as another control for board structure of corporate governance measure. This is to reflect social networks, multiple backgrounds and commitment of directors (O'Neal and Thomas, 1996; Conyon and Muldoon, 2006; Haniffa and Hudaib, 2006). Another mechanism

that is of recent concern to corporate governance researchers is compensation structure. This mechanism, either by way of granting share options or providing performance-related pay, is designed to align shareholders' and managers' interests (Florackis, 2008). However, the effectiveness of remuneration in reducing the agency problem could be challenged, specifically in the case of misalignment between remuneration and performance (Firth *et al.*, 1999). Following Florackis (2008), this study considers the compensation structure mechanism based on executive salary and a dummy variable of available performance-related options or bonuses. Table 6.5 presents the details of the corporate governance mechanisms measures.

Table 6.5

Corporate Governance Measures

Mechanism	Items	Measures
Ownership structure	Director ownership (DOWN)	Percentage of shares held by directors
	Institutional ownership (IOWN)	Percentage of shares held by substantial institutional shareholders
Board structure	Board size (BSIZE)	Number of directors serving the board
	Non-executive directors (NED)	Percentage of non-executive directors to total number of directors on the board
	Multi-directorship (MDIR)	Percentage of directors who serve more than one board to total number of directors
Compensation structure	Executive salary (SAL)	Total salary paid to executive directors (scaled by beginning book value of equity)
	Option or bonus (BODUM)	Dummy measure of option or bonus, 1 if option or bonus has been paid, 0 otherwise

In applying factor analysis, two procedures have been carried out (Pett, Lackey and Sullivan, 2003). The first is related to assessing the characteristics of

matrices and the second is concerned with extracting the initial factors. In the first procedure, three steps have been taken, comprising correlation, determinant |R| analysis and measuring sample adequacy through Bartlett's test of sphericity and the Kaiser-Mayer-Olkins (KMO) test. Table 6.6 and Table 6.7 report the correlation coefficients (on the off-diagonal) among items and KMO (on the diagonal) of each item for persistent and combined persistent and non-persistent profit-making sample respectively. The overall KMO measures, KMO=0.6115 for persistent profit-making sample and KMO=0.6170 for combined persistent and non-persistent profit-making sample, indicate higher measures of KMO than the threshold acceptable level, i.e. KMO=0.5 (Hair, Black, Babin, Anderson and Tatham, 2006). Similarly, the KMO measures of each item (diagonally presented in Table 6.6 and Table 6.7) also show an acceptable level of sampling adequacy with a minimum measure of KMO=0.5224 for persistent profit-making sample and KMO=0.5200 for combined persistent and non-persistent profit-making sample. The correlation coefficients signify only four coefficients that are close to zero (for both persistent and combined persistent and non-persistent profit makers) but the related items are, however, essential in explaining their relationship with the other items in the matrices. In addition, the significant Bartlett's test of sphericity reveals a sufficient correlation ($p<0.01$) among items (Hair *et al.*, 2006), for both persistent and combined persistent and non-persistent profit-making samples. Based on previous studies, these relationships also exhibit expected relationships between items and hence, no item is dropped for further tests. Results from the determinant |R| analysis show that the square matrix has an inverse with |R|=0.3530 for persistent profit-making sample and |R|=0.3700 for combined persistent and non-persistent profit-making sample, indicating no "apparent linear dependencies" in the data and thus, the items do not require further elimination and re-testing (Pett *et al.*, 2003).[60]

[60] If the |R|=0.0, the correlation matrix signifies a singular matrix, indicating some items are too highly correlated and therefore one or more highly correlated items need to be dropped, while if the |R|=1.0, the correlation matrix signifies an identity matrix, indicating that the factor analysis is not suitable to be carried out for the set of sample or the number of items (Pett *et al.,* 2003).

Table 6.6

Pearson Correlation Matrix and KMO: Persistent Profit-Making Companies

n=588	DOWN	IOWN	BSIZE	NED	MDIR	SAL	BODUM
DOWN	0.6113						
IOWN	-0.2751***	0.5224					
BSIZE	-0.0438	-0.1465***	0.6538				
NED	-0.2044***	0.1272***	0.1539***	0.5931			
MDIR	-0.2953**	0.0378	0.1957***	0.6090***	0.5969		
SAL	0.1509***	0.0092	-0.1839***	-0.3675***	-0.2504***	0.7189	
BODUM	-0.3303***	0.1457***	-0.0708*	0.1650***	0.1184***	-0.1119***	0.6405

***, ** and * indicate significant level at 1%, 2.5% and 5% respectively.
KMO measures are on the diagonal and correlation coefficients on the off-diagonal.

Table 6.7

Pearson Correlation Matrix and KMO: Persistent and Non-Persistent Profit-Making Companies

n=610	DOWN	IOWN	BSIZE	NED	MDIR	SAL	BODUM
DOWN	0.6250						
IOWN	-0.2706***	0.5200					
BSIZE	-0.0467	-0.1425***	0.6582				
NED	-0.2154***	0.1220***	0.1534***	0.6006			
MDIR	-0.2893***	0.0350	0.1891***	0.6010***	0.6014		
SAL	0.1487***	0.0057	-0.1899***	-0.3699***	-0.2495***	0.7200	
BODUM	-0.3070***	0.1289***	-0.0604	0.1534***	0.1009**	-0.1062***	0.6338

***, ** and * indicate significant level at 1%, 2.5% and 5% respectively.
KMO measures are on the diagonal and correlation coefficients on the off-diagonal.

As the interest of this study is to examine the moderating effect of corporate governance, principal component analysis is chosen to extract the factors.[61] Table 6.8 and Table 6.9 respectively display rotated factor loadings of two extracted factors with eigenvalues>1 and a cumulative variance explanation of 0.5111 for persistent profit-making companies and 0.5057 for combined persistent and non-persistent profit-making companies.[62] As the factor analysis is conducted to

[61] This extraction method would allow the results to be interpreted as a total variance rather than common variance as resulted by principal axis factoring (Pett *et al.,* 2003). In addition, this method is in line with the study that is primarily concerned with data reduction instead of latent construct (Hair *et al.*, 2006).

[62] The loadings are based on orthogonal varimax rotation method in which under this method, the factors are assumed to be independent of each other. However, analysis based on an alternative rotation, i.e. promax rotation, was also conducted and the results are qualitatively similar to the loadings of varimax rotation.

determine general corporate governance variables, surrogate variable is the best measure to be applied (Hair *et al.*, 2006).[63] Thus, all of the items are further analysed to determine surrogate variables of each factor. Based on the highest factor loading of each factor, NED (factor loadings of 0.7935 and 0.7942 for persistent profit-making companies and combined persistent and non-persistent profit-making companies respectively) and IOWN (factor loadings of 0.6979 and 0.7007 for persistent profit-making companies and combined persistent and non-persistent profit-making companies respectively) are identified as surrogates of factor 1 and 2 respectively (for both persistent and combined persistent and non-persistent profit makers). Thus, the multivariate analyses incorporate NED and IOWN as corporate governance measures. In addition, in conducting a further test on corporate governance effects on the relationship between tax planning and firm value, the samples are further split around the median of total governance score and the estimations are then compared. This score is computed by multiplying the two surrogate variables, i.e. NED and IOWN.

Table 6.8

Rotated Factor Loadings: Persistent Profit Makers

Items	Factor 1	Factor 2
DOWN	-0.3439	-0.6497*
IOWN	-0.0390	0.6979*
BSIZE	0.5051*	-0.4247
NED	0.7935*	0.1656
MDIR	0.7851*	0.1263
SAL	-0.6305*	0.0260
BODUM	0.1683	0.6305*

* Indicates extracted items for each factor.

[63] Factor score is more suitable for studies that aim for orthogonality of the measures and summated scale is not appropriate for application due to potential contradictory effects of the mechanisms (Hair *et al.*, 2006).

Table 6.9

Rotated Factor Loadings: Persistent and Non-Persistent Profit Makers

Items	Factor 1	Factor 2
DOWN	-0.3527	-0.6439*
IOWN	-0.0353	0.7007*
BSIZE	0.5016*	-0.4232
NED	0.7942*	0.1651
MDIR	0.7796*	0.1176
SAL	-0.6348*	0.0336
BODUM	0.1591	0.6075*

* Indicates extracted items for each factor.

The models to test the moderating effects of corporate governance on the relationship between firm value and tax planning of persistent and non-persistent profit-making companies are respectively written as model (19) and model (20).

$$MVE_{it+3months} = \beta_0 + \beta_1 BVE_{it} + \beta_2 PBT_{it} + \beta_3 TS_{it} + \beta_4 NED_{it} + \beta_5 IOWN_{it} + \beta_6 CC_{it} + \beta_7 EM_{it} + \beta_8 CAPINT_{it} + \beta_9 LEV_{it} + \beta_{10} DIV_{it} + \beta_{11} FS_{it} + \sum_{n=12}^{18} \beta_n INDDUM_{it} + \varepsilon_{it} \quad (19)$$

Where:

NED_{it} = Proportion of non-executive directors of company i at time t

$IOWN_{it}$ = Institutional ownership of company i at time t

$$MVE_{it+3months} = \beta_0 + \beta_1 BVE_{it} + \beta_2 PBT_{it} + \beta_3 TS_{it} + \beta_4 NPSTDUMTS_{it} + \beta_5 NED_{it} + \beta_6 IOWN_{it} + \beta_7 CC_{it} + \beta_8 EM_{it} + \beta_9 CAPINT_{it} + \beta_{10} LEV_{it} + \beta_{11} DIV_{it} + \beta_{12} FS_{it} + \sum_{n=13}^{20} \beta_n INDDUM_{it} + \varepsilon_{it} \quad (20)$$

To further investigate the role of corporate governance, model (19) is re-estimated with the addition of two interactive or moderating variables. This is to investigate whether any influence of corporate governance on the relationship between firm value and tax saving that is found from the above estimation (model 19) is conditional upon the strength of companies' corporate governance structure. Each of the two corporate governance variables, NED and IOWN, are multiplied in turn by the tax planning variable, TS, to give rise to the following variables: TS_{it}_NED_{it} and TS_{it}_$IOWN_{it}$ (both are scaled by BVE_{t-1} - refer to the following scaling effect sub-section).

$$MVE_{it+3months} = \beta_0 + \beta_1 BVE_{it} + \beta_2 PBT_{it} + \beta_3 TS_{it} + \beta_4 NED_{it} + \beta_5 IOWN_{it} + \beta_6 TS_{it}\_NED_{it} + \beta_7 TS_{it}\_IOWN_{it} + \beta_8 CC_{it} + \beta_9 EM_{it} + \beta_{10} CAPINT_{it} + \beta_{11} LEV_{it} + \beta_{12} DIV_{it} + \beta_{13} FS_{it} + \sum_{n=14}^{20} \beta_n INDDUM_{it} + \varepsilon_{it} \quad (21)$$

Similarly, to further investigate whether the role of corporate governance that may be found from the above estimation (model 21) differs for non-persistent profit-making companies, model (20), in addition to $TS_{it}\_NED_{it}$ and $TS_{it}\_IOWN_{it}$, is estimated with the addition of two interaction variables: $NPSTDUMTS_{it}\_NED_{it}$, an interaction variable between tax saving by non-persistent profit-making companies and the proportion of non-executive directors of company i at time t, and $NPSTDUMTS_{it}\_IOWN_{it}$, an interaction variable between tax saving of non-persistent profit-making companies and the institutional ownership of company i at time t (both are scaled by BVE_{t-1} - refer to the following scaling effect sub-section).

$$MVE_{it+3months} = \beta_0 + \beta_1 BVE_{it} + \beta_2 PBT_{it} + \beta_3 TS_{it} + \beta_4 NPSTDUMTS_{it} + \beta_5 NED_{it} + \beta_6 IOWN_{it} + \beta_7 TS_{it}\_NED_{it} + \beta_8 TS_{it}\_IOWN_{it} + \beta_9 NPSTDUMTS_{it}\_NED_{it} + \beta_{10} NPSTDUMTS_{it}\_IOWN_{it} + \beta_{11} CC_{it} + \beta_{12} EM_{it} + \beta_{13} CAPINT_{it} + \beta_{14} LEV_{it} + \beta_{15} DIV_{it} + \beta_{16} FS_{it} + \sum_{n=17}^{24} \beta_n INDDUM_{it} + \varepsilon_{it} \quad (22)$$

The next set of models which test the effects of corporate governance on the relationship between the firm value and the individual components of tax saving of persistent profit-making companies and non-persistent profit-making companies are respectively written as model (23) and model (24).

$$MVE_{it+3months} = \beta_0 + \beta_1 BVE_{it} + \beta_2 PBT_{it} + \beta_3 TLOSS_{it} + \beta_4 TPD_{it} + \beta_5 TTD_{it} + \beta_6 TFTR_{it} + \beta_7 TUNC_{it} + \beta_8 NED_{it} + \beta_9 IOWN_{it} + \beta_{10} CC_{it} + \beta_{11} EM_{it} + \beta_{12} CAPINT_{it} + \beta_{13} LEV_{it} + \beta_{14} DIV_{it} + \beta_{15} FS_{it} + \sum_{n=16}^{22} \beta_n INDDUM_{it} + \varepsilon_{it} \quad (23)$$

$$MVE_{it+3months} = \beta_0 + \beta_1 BVE_{it} + \beta_2 PBT_{it} + \beta_3 TLOSS_{it} + \beta_4 TPD_{it} + \beta_5 TTD_{it} + \beta_6 TFTR_{it} + \beta_7 TUNC_{it} + \beta_8 NPSTDUM_{it}\_TLOSS_{it} + \beta_9 NPSTDUM_{it}\_TPD_{it} + \beta_{10} NPSTDUM_{it}\_TTD_{it} + \beta_{11} NPSTDUM_{it}\_TFTR_{it} + \beta_{12} NPSTDUM_{it}\_TUNC_{it} + \beta_{13} NED_{it} + \beta_{14} IOWN_{it} + \beta_{15} CC_{it} + \beta_{16} EM_{it} + \beta_{17} CAPINT_{it} + \beta_{18} LEV_{it} + \beta_{19} DIV_{it} + \beta_{20} FS_{it} + \sum_{n=21}^{27} \beta_n INDDUM_{it} + \varepsilon_{it} \quad (24)$$

To further investigate the role of corporate governance in the relationship between firm value and components of tax saving of persistent profit-making companies, model (23) is re-estimated with the addition of 10 interactive or moderating variables. Each of the two corporate governance variables, NED and IOWN, are multiplied by the components of tax saving variable, TLOSS, TPD, TTD, TFTR and TUNC to give rise to the following variables: $TLOSS_{it}\_NED_{it}$, $TLOSS_{it}\_IOWN_{it}$, $TPD_{it}\_NED_{it}$, $TPD_{it}\_IOWN_{it}$, $TTD_{it}\_NED_{it}$, $TTD_{it}\_IOWN_{it}$, $TFTR_{it}\_NED_{it}$, $TFTR_{it}\_IOWN_{it}$, $TUNC_{it}\_NED_{it}$ and $TUNC_{it}\_IOWN_{it}$ (all are scaled by BVE_{t-1} - refer to the following scaling effect sub-section).

$$MVE_{it+3months} = \beta_0 + \beta_1 BVE_{it} + \beta_2 PBT_{it} + \beta_3 TLOSS_{it} + \beta_4 TPD_{it} + \beta_5 TTD_{it} + \beta_6 TFTR_{it} + \beta_7 TUNC_{it} + \beta_8 NED_{it} + \beta_9 IOWN_{it} + \beta_{10} TLOSS_{it}\_NED_{it} + \beta_{11} TLOSS_{it}\_IOWN_{it} + \beta_{12} TPD_{it}\_NED_{it} + \beta_{13} TPD_{it}\_IOWN_{it} + \beta_{14} TTD_{it}\_NED_{it} + \beta_{15} TTD_{it}\_IOWN_{it} + \beta_{16} TFTR_{it}\_NED_{it} + \beta_{17} TFTR_{it}\_IOWN_{it} + \beta_{18} TUNC_{it}\_NED_{it} + \beta_{19} TUNC_{it}\_IOWN_{it} + \beta_{20} CC_{it} + \beta_{21} EM_{it} + \beta_{22} CAPINT_{it} + \beta_{23} LEV_{it} + \beta_{24} DIV_{it} + \beta_{25} FS_{it} + \sum_{n=26}^{32} \beta_n INDDUM_{it} + \varepsilon_{it} \quad (25)$$

Similarly, to further investigate whether the role of corporate governance in the relationship between firm value and components of tax saving of non-persistent profit-making companies that is found from the above estimation (model 24) is conditional upon the strength of companies' corporate governance structure, model (24), in addition to $TLOSS_{it}\_NED_{it}$, $TLOSS_{it}\_IOWN_{it}$, $TPD_{it}\_NED_{it}$, $TPD_{it}\_IOWN_{it}$, $TTD_{it}\_NED_{it}$, $TTD_{it}\_IOWN_{it}$, $TFTR_{it}\_NED_{it}$, $TFTR_{it}\_IOWN_{it}$, $TUNC_{it}\_NED_{it}$ and $TUNC_{it}\_IOWN_{it}$, is estimated with an additional 10 interactive variables. Each of the two corporate governance variables, NED and IOWN, are multiplied by the interactive variable between components of tax saving and NPSTDUM, i.e. NPSTDUM_TLOSS, NPSTDUM_TPD, NPSTDUM_TTD, NPSTDUM_TFTR and NPSTDUM_TUNC to give rise to the following variables: $NPSTDUMTLOSS_{it}\_NED_{it}$, $NPSTDUMTLOSS_{it}\_IOWN_{it}$, $NPSTDUMTPD_{it}\_NED_{it}$, $NPSTDUMTPD_{it}\_IOWN_{it}$, $NPSTDUMTTD_{it}\_NED_{it}$, $NPSTDUMTTD_{it}\_IOWN_{it}$, $NPSTDUMTFTR_{it}\_NED_{it}$, $NPSTDUMTFTR_{it}\_IOWN_{it}$, $NPSTDUMTUNC_{it}\_NED_{it}$ and $NPSTDUMTUNC_{it}\_IOWN_{it}$ (all are scaled by BVE_{t-1} - refer to the following scaling effect sub-section).

$$MVE_{it+3months} = \beta_0 + \beta_1 BVE_{it} + \beta_2 PBT_{it} + \beta_3 TLOSS_{it} + \beta_4 TPD_{it} + \beta_5 TTD_{it} + \beta_6 TFTR_{it} + \beta_7 TUNC_{it} + \beta_8 NPSTDUM_{it}\_TLOSS_{it} + \beta_9 NPSTDUM_{it}\_TPD_{it} + \beta_{10} NPSTDUM_{it}\_TTD_{it} + \beta_{11} NPSTDUM_{it}\_TFTR_{it} + \beta_{12} NPSTDUM_{it}\_TUNC_{it} + \beta_{13} NED_{it} + \beta_{14} IOWN_{it} + \beta_{15} TLOSS_{it}\_NED_{it} + \beta_{16} TLOSS_{it}\_IOWN_{it} + \beta_{17} TPD_{it}\_NED_{it} + \beta_{18} TPD_{it}\_IOWN_{it} + \beta_{19} TTD_{it}\_NED_{it} + \beta_{20} TTD_{it}\_IOWN_{it} + \beta_{21} TFTR_{it}\_NED_{it} + \beta_{22} TFTR_{it}\_IOWN_{it} + \beta_{23} TUNC_{it}\_NED_{it} + \beta_{24} TUNC_{it}\_IOWN_{it} + \beta_{25} NPSTDUMTLOSS_{it}\_NED_{it} + \beta_{26} NPSTDUMTLOSS_{it}\_IOWN_{it} + \beta_{27} NPSTDUMTPD_{it}\_NED_{it} + \beta_{28} NPSTDUMTPD_{it}\_IOWN_{it} + \beta_{29} NPSTDUMTTD_{it}\_NED_{it} + \beta_{30} NPSTDUMTTD_{it}\_IOWN_{it} + \beta_{31} NPSTDUMTFTR_{it}\_NED_{it} + \beta_{32} NPSTDUMTFTR_{it}\_IOWN_{it} + \beta_{33} NPSTDUMTUNC_{it}\_NED_{it} + \beta_{34} NPSTDUMTUNC_{it}\_IOWN_{it} + \beta_{35} CC_{it} + \beta_{36} EM_{it} + \beta_{37} CAPINT_{it} + \beta_{38} LEV_{it} + \beta_{39} DIV_{it} + \beta_{40} FS_{it} + \sum_{n=41}^{47} \beta_n INDDUM_{it} + \varepsilon_{it} \quad (26)$$

Scaling Effects

All continuous variables (MVE, BVE, PBT, TS, TLOSS, TPD, TTD, TFTR, TUNC, CC and EM) in the above estimation models are scaled to control for scale-effect heteroscedasticity (Stark and Thomas, 1998; Akbar and Stark, 2003; Horton, 2008).[64] In addition to econometric issues, deflators are also required to control for size-related correlation (Barth and Clinch, 2009). There are several deflators used by previous literature for this purpose, for example, net book value of equity (assets) (for example Green, Stark and Thomas, 1996; Stark and Thomas, 1998; Akbar and Stark, 2003; O'Hanlon and Taylor, 2007; Hughes, 2008), number of shares outstanding (for example Rees, 1997; Akbar and Stark, 2003; Horton, 2008), market value of equity (for example Akbar and Stark, 2003; Horton, 2008) and sales (for example Hirschey, 1985; Akbar and Stark, 2003). In the absence of a theoretical justification to control for scale effects (Rees, 1997; Liu and Stark, 2009), this study employs book value of equity as a deflator in order to be consistent with most U.K. market valuation literature.[65] In addition, book value is also used to control size-related heteroscedasticity (Barth and Kallapur, 1996; Hughes, 2008). Since one of the regressors in the estimation

[64] However, the heteroscedasticity test will also be conducted econometrically using Breusch and Pagan's (1979), White's (1980), and Cook and Weisberg's (1983) tests.

[65] See Rees (1997) for examples of previous literature on the difference in researched topics and issues of the estimation models.

models is book value of equity, the deflator is defined as opening book value of equity (BVE_{t-1}). However, in order to ensure the robustness of the results, further tests will be conducted to determine the sensitivity of the results towards the choice of the deflator using number of shares, opening market value and sales.

6.3 Conclusions

This chapter discusses the research methodology of this study. The discussion begins with the explanation of the sample selection process and the data sources. This chapter also discusses the development of the estimation models which include explanations on the underlying theoretical model, development process, and concepts and empirical application. The section on the concepts and empirical application provides detailed explanations of the assumptions in the estimation models, which consists of alternative specifications and measurements. The discussion on alternative specifications and measurements focuses on market value of equity, tax planning measures, firm-specific characteristics, non-persistent profit makers, components of tax saving, corporate governance and scaling effects of the estimation models.

This study utilises a panel dataset of non-financial LSE publicly listed companies for a sample period from 2005 to 2007. The sources of the data collection comprise annual reports, *Datastream*, FTSE/DJ industry classification, *Hemscott Guru Database* and *Corporate Register*. In the development of the estimation models, this study refers to Ohlson's valuation model as the foundation. The summary of the estimation models and the descriptions and measurement of the variables are as in the appendix.

Chapter 7

Analyses and Findings

This chapter discusses the data analyses and the results from the estimation models described in Chapter 6. This chapter begins with explanations on the tests for outliers and influential observations. Subsequently, this chapter proceeds with the descriptive statistics of the samples and discussions on the multivariate results. In performing the analyses, multicollinearity and heteroscedasticity tests have been conducted and these are discussed in detail in the subsequent sections. In testing the robustness of the results, further tests have been carried out and the results are subsequently discussed in the following sections.

7.1 Outliers and Influential Observations

Outliers are observations that are *"substantially different from the other observations (i.e. has an extreme value) on one or more characteristics (variables)"* (Hair *et al.*, 2006: 40). Influential observations are defined as the observations that could disproportionately influence the regression estimates due to extreme values of the variables (Hair *et al.*, 2006). The outliers of the data were identified using a studentized residual (Hair *et al.*, 2006). Following Chen *et al.*'s (2005a) suggestion, the outliers were determined based on studentized

residual>|2|, as this exhibits a large observation's residual that may indicate an unusual value of the respondent variable given its value on the regressors. From the analysis, 28 observations (4.76 per cent of the full sample of 588 observations) from the estimation models that were used to test the relationship between firm value and tax planning of persistent profit-making companies have been identified as outliers and therefore have been excluded from the multivariate testing. As the interest of this study is to focus on persistent profit-making companies, an additional 29 observations (4.93 per cent of the full sample of 588 observations) relating to the outlier companies (the above-mentioned 28 observations) were further excluded, so that the remaining sample consists of only persistent profit-making companies. This is consistent with Mills *et al.*'s (1998) method of considering only companies that have strong incentives to carry out tax planning activities in their tax planning investment research. Therefore, in total, 57 observations (19 companies) have been excluded from further multivariate tests of persistent profit-making companies. To provide further understanding of different results based on the full sample (without the eliminations) and based on the outliers exclusion sample (with the eliminations), Column I and Column II of Table 7.1 respectively present the regression results based on 588 firms-years (full sample) and 531 firms-years (after exclusion of outliers). In contrast to the results after the exclusion of outliers, the coefficient estimate of tax saving (TS) variable based on the full sample is not significant.

Table 7.1

Persistent Profit-Making Companies: Firm Value and Tax Planning – Residual Analysis

	(I)	(II)
DV =$MVE_{t+3months}/BVE_{t-1}$	**Full sample**	**After exclusions of outliers**
BVE	2.7597	1.3812
	(3.48)***	(4.04)***
PBT	10.6855	10.1791
	(13.73)***	(18.21)***
TS	-3.7261	-9.1235
	(-0.45)	(-2.69)***
CC	-3.7728	-1.0590
	(-3.46)***	(-1.59)
EM	-3.9645	-2.7749
	(-1.87)*	(-5.74)***
CAPINT	-0.7709	-0.4927
	(-1.15)	(-2.14)**
LEV	1.3094	-0.2832
	(1.19)	(-0.58)
DIV	0.0110	0.0001
	(1.59)	(0.03)
FS	0.0185	0.0069
	(2.59)***	(3.03)***
Cons	-2.5114	-0.2076
	(-2.10)**	(-0.41)
R-squared	91.44%	48.58%
n	588	531
Wald chi^2	3265.44***	595.09***
	$16^{\#}$	$16^{\#}$
Breusch-Pagan	109.91***	107.67***
	$16^{\#}$	$16^{\#}$

Figures in parentheses represent cross-section clustered Eicker-Huber-White adjusted t-statistics.
***, ** and * indicate significance at 1%, 2.5% and 5% respectively.
# indicates degree of freedom.

Similar procedures were conducted to determine the outliers of the combined persistent and non-persistent profit-making companies. 28 observations (4.59 per cent of the full sample of 610 observations) were identified as outliers and, to control for the authenticity of non-persistent profit-making companies' definition, 27 observations (4.43 per cent of the full sample of 610 observations) relating to the outlier companies (the above-mentioned 28 observations) were further excluded. Therefore, in total, 55 observations (19 companies) have been excluded from multivariate testing of the non-persistent profit-making companies. The results based on 610 firms-years (full sample) and 555 firms-years (after exclusions of outliers) are respectively reported in Column I and

Column II of Table 7.2. Consistent with the results after the exclusion of outliers, the coefficient estimate of tax saving of the full sample of non-persistent profit-making companies (NPSTDUMTS) is also significant at a higher p value.

Table 7.2

Persistent and Non-Persistent Profit-Making Companies: Firm Value and Tax Planning – Residual Analysis

	(I)	(II)
DV =$MVE_{t+3months}/BVE_{t-1}$	**Full sample**	**After exclusion of outliers**
BVE	2.7250	1.2384
	(3.40)***	(3.52)***
PBT	10.6706	10.0582
	(13.36)***	(18.53)***
TS	-3.7205	-9.3345
	(-0.45)	(-2.78)***
NPSTDUMTS	-28.9639	-23.3878
	(-2.09)**	(-4.54)***
CC	-3.7171	-0.8184
	(-3.39)***	(-1.22)
EM	-3.9037	-2.6480
	(-1.88)*	(-5.78)***
CAPINT	-0.8671	-0.4984
	(-1.32)	(-2.23)**
LEV	1.2350	-0.0616
	(1.20)	(-0.13)
DIV	0.0098	-0.0006
	(1.44)	(-0.24)
FS	0.0181	0.0063
	(2.60)***	(2.80)***
Cons	-2.4537	0.0082
	(-2.06)**	(0.02)
R-squared	91.40%	49.19%
n	610	555
Wald chi^2	3236.92***	632.02***
	$18^{\#}$	$18^{\#}$
Breusch-Pagan	116.70***	110.23***
	$18^{\#}$	$18^{\#}$

Figures in parentheses represent cross-section clustered Eicker-Huber-White adjusted t-statistics.
***, ** and * indicate significance at 1%, 2.5% and 5% respectively.
# indicates degree of freedom.

In addition to the above, the analysis of residual for outliers was also conducted based on the estimation model used to test the valuation on components of tax saving of persistent profit-making companies. From the analysis, 36 observations (6.12 per cent of the full sample of 588 observations) have been identified as outliers and therefore have been excluded from the multivariate testing. This

leads to an additional exclusion of 48 observations (8.16 per cent of the full sample of 588 observations) relating to the outlier companies (the above-mentioned 36 observations), so that the remaining sample consists of persistent profit-making companies. Therefore, in total, 84 observations (28 companies) have been excluded from further multivariate tests on the components of tax saving. Column I and Column II of Table 7.3 respectively present the regression results of the 588 firms-years (full sample) and 504 firms-years (after exclusions of outliers). Results in Column I indicate that all of the four components (tax losses (TLOSS), permanent difference (TPD), temporary differences (TTD) and foreign tax differentials (TFTR)) are significant but these results, after controlling the outliers, are only significant in the case of permanent differences.

Subsequent to the residual analysis, the data was tested for influential observations. The test was conducted using leverage of DFFITs cut-off criterion as defined by Belsley *et al.* (1980), i.e. when abs(dfits)>2*$(P/N)^{1/2}$ where P is the number of independent variables and N is the number of observations. The tests exhibit 39 influential observations from each persistent profit makers and combined persistent and non-persistent profit makers. Following the above-mentioned outlier procedures, further exclusions were made, i.e. 48 observations of persistent profit-making companies and 44 observations of combined persistent and non-persistent profit-making companies. In summary, 29 companies, from both persistent profit-making companies and combined persistent and non-persistent profit-making companies, were excluded and this consequently reduces the number of remaining observations to 444 and 472 respectively. In terms of components of tax saving, 44 influential observations were identified and therefore have been excluded from multivariate analyses. This leads to the exclusion of an additional 55 observations in order to ensure balanced firm-year observations. This in turn leads to final observations of 405 firms-years. These final samples are the base for the remaining analyses, i.e. descriptive, multivariate, bivariate and further tests.

Table 7.3

Firm Value and Components of Tax Saving: Persistent Profit-Making Companies – Residual Analysis

	(I)	(II)
DV =$MVE_{t+3months}/BVE_{t-1}$	**Full sample**	**After exclusions of outliers**
BVE	2.0470	0.4977
	(3.16)***	(1.50)
PBT	9.1713	9.6500
	(16.75)***	(25.43)***
TLOSS	49.3187	6.1103
	(5.28)***	(1.16)
TPD	-19.2853	-14.3129
	(-3.43)***	(-3.05)***
TTD	31.5687	5.8999
	(3.40)***	(1.50)
TFTR	37.5748	9.8642
	(1.96)**	(0.96)
TUNC	-1.3316	-5.2632
	(-0.11)	(-0.79)
CC	-2.2032	-0.4975
	(-3.09)***	(-0.90)
EM	-2.3076	-2.8604
	(-4.03)***	(-6.74)***
CAPINT	-0.5615	-0.5889
	(-1.23)	(-2.76)***
LEV	1.0671	-0.1755
	(1.18)	(-0.37)
DIV	0.0096	0.0029
	(1.79)*	(1.17)
FS	0.0155	0.0068
	(3.48)***	(3.09)***
Cons	-1.4039	0.7531
	(-1.61)	(1.51)
R-squared	94.12%	65.58%
n	588	504
Wald chi^2	4917.01***	932.91***
	$20^{\#}$	$20^{\#}$
Breusch-Pagan	72.24***	88.44***
	$20^{\#}$	$20^{\#}$

Figures in parentheses represent cross-section clustered Eicker-Huber-White adjusted t-statistics.
***, ** and * indicate significance at 1%, 2.5% and 5% respectively.
# indicates degree of freedom.

7.2 Descriptive Statistics

Tables 7.4 and 7.5 respectively present the descriptive statistics of the persistent profit-making and non-persistent profit-making companies. The data represent a

sample of persistent profitable publicly-traded companies with an average ETR of 27.11 per cent or, conversely, an average tax saving of 2.89 per cent. The average ETR of non-persistent profit-making companies is higher than the persistent sample, i.e. 32.90 per cent or, conversely, an average negative tax saving of 2.90 per cent. These indicate the existence of tax planning activities across persistent profit-making companies compared to non-persistent profit-making companies. These also generally signify variations in the extent of tax planning between both samples. In general, tax saving of persistent profit-making companies is higher than the non-persistent profit-making companies by 5.79 per cent.

In terms of corporate governance data, the mean of board size (BSIZE) of both samples indicates an average of eight directors who serve the board. The board of persistent profit-making companies and non-persistent profit-making companies is respectively described as consisting of an average of 57 per cent and 58 per cent of non-executive directors (NED), which exhibits that the executive directors who serve the board are proportionately less than half of the total directors. Consistent with the claim that non-executive directors exhibit social networks (Zahra and Pearce, 1989), the percentage of directors that serve more than one board or company (MDIR) is about similar to the percentage of non-executive directors, i.e. 49 per cent for persistent profit-making companies and 44 per cent for non-persistent profit-making companies. The equity ownerships of these directors (DOWN) are described as an average of seven per cent of total common equity which indicates a low level of ownership interest of directors of both samples. In contrast, the institutional ownership (IOWN) of persistent and non-persistent samples respectively indicates an average of 34 per cent and 39 per cent of substantial institutions' equity holding, which signifies a higher level of institutional interest than the level of the directors' interests. In terms of executive salary compensation (SAL), on average, the companies paid, to all executive directors, £987,577 and £808,229 for persistent and non-persistent profit-making companies respectively.

Table 7.4

Descriptive Statistics: Persistent Profit-Making Companies

n=444	Mean	Min	Max	Standard deviation
$MVE_{t+3months}$(£'000)	2149390.0000	6650.0000	40034070.0000	5533618.0000
BVE_t(£'000)	712354.1000	8756.0000	13700000.0000	1546922.0000
PBT_t(£'000)	181466.9000	434.0000	5146555.0000	507633.5000
TS_t (£'000)	7465.3680	-237300.0000	331700.0000	36836.9700
ETR_t	0.2711	0.0000	0.9272	0.1256
TS_t	0.0289	-0.6272	0.3000	0.1256
CC_t(£'000)	12197.5300	-140000.0000	805000.0000	57190.0000
EM_t(£'000)	1583.6840	-1333000.0000	1133631.0000	148189.7000
$MVE_{t+3months}/BVE_{t-1}$	3.4024	0.5900	18.9500	2.1709
$BVE_t/BVEt_{-1}$	1.1515	0.2125	7.0577	0.3767
PBT_t/BVE_{t-1}	0.2638	0.0142	1.4302	0.1648
TS_t/BVE_{t-1}	0.0091	-0.1052	0.1651	0.0269
CC_t/BVE_{t-1}	0.0382	-0.3224	2.4159	0.1651
EM_t/BVE_{t-1}	-0.0124	-0.6533	0.5670	0.1681
DIV_t	37.6752	0.0000	97.57000	22.5539
$CAPINT_t$	0.2090	0.0000	1.4747	0.2704
LEV_t	0.1552	0.0000	0.6443	0.1552
FS_t	37.8643	0.0000	112.9127	33.9404
$BSIZE_t$	8.3153	4.0000	16.0000	2.2486
NED_t	56.7593	0.0000	88.8889	13.1738
$DOWN_t$	6.6424	0.0000	60.4505	13.1758
$IOWN_t$	33.5397	0.0000	92.4000	17.6180
$MDIR_t$	49.1032	0.0000	100.0000	23.7287
SAL_t(£'000)	987.5770	86.0000	4303.0000	604.6534
SAL_t/BVE_{t-1}	0.0081	0.0001	0.0610	0.0096

Table 7.5

Descriptive Statistics: Non-Persistent Profit-Making Companies

n=16[66]	**Mean**	**Min**	**Max**	**Standard deviation**
$MVE_{t+3months}$(£'000)	618863.1000	24820.0000	3876100.0000	1130422.0000
BVE_t(£'000)	360150.1000	13629.0000	2465000.0000	717078.0000
PBT_t(£'000)	74642.7500	2400.0000	620000.0000	177062.3000
TS_t (£'000)	9855.2000	-16180.0000	90000.0000	29968.5200
ETR_t	0.3290	0.0030	0.9370	0.2737
TS_t	-0.0290	-0.6370	0.2970	0.2737
CC_t(£'000)	7488.5630	0.0000	89700.0000	22523.6600
EM_t(£'000)	-96911.6300	-819000.0000	40600.0000	248526.3000
$MVE_{t+3months}/BVE_{t-1}$	2.4531	0.7700	8.4600	1.9350
$BVE_t/BVEt_{-1}$	1.0612	0.7550	1.5906	0.1827
PBT_t/BVE_{t-1}	0.2028	0.0231	0.7724	0.1865
TS_t/BVE_{t-1}	0.0067	-0.0611	0.0766	0.0333
CC_t/BVE_{t-1}	0.0281	0.0000	0.3388	0.0834
EM_t/BVE_{t-1}	-0.0280	-0.3561	0.5354	0.2583
DIV_t	21.5219	0.0000	94.0200	27.8300
$CAPINT_t$	0.1805	0.0000	0.8120	0.2266
LEV_t	0.1345	0.0000	0.3568	0.1084
FS_t	41.6032	0.0000	91.6837	34.0992
$BSIZE_t$	7.7500	5.0000	11.0000	2.5430
NED_t	57.5262	40.0000	72.7273	11.7100
$DOWN_t$	6.9829	0.0069	30.1153	9.9488
$IOWN_t$	39.3281	0.0000	62.1900	21.2649
$MDIR_t$	44.1026	10.0000	83.3333	22.9897
SAL_t(£'000)	808.2291	269.0000	1622.0000	416.0104
SAL_t/BVE_{t-1}	0.0121	0.0003	0.0362	0.0109

[66] The sample size is extracted from persistent and non-persistent profit-making sample. After exclusion of outliers and influential observations (discussed in Section 7.1), there are 472 persistent and non-persistent observations in which 16 observations are related to non-persistent profit-making companies.

Table 7.6 and Table 7.7 respectively present the descriptive statistics of the persistent profit-making and non-persistent profit-making samples in testing the market valuation of components of tax saving. The sample sizes differ from the sizes of the previous samples because of different exclusion of outliers and influential observations related to the estimation models that test the components of tax saving. This is due to different measures of tax saving in which the tax saving of the previous two samples are based on total current tax saving while the other two samples are based on components of total tax saving.

From the mean of the five components of tax saving of persistent profit-making sample, the highest tax saving (in £'000) is from temporary differences (TTD) and is followed by foreign tax rates differentials (TFTR). The unclassified reconciliation items (TUNC) are in the third rank of the highest average of components of tax saving and this is subsequently followed by (in order) tax losses component (TLOSS) and permanent differences (TPD). However, this rank is observed to be different for scaled components (by BVE_{t-1}). Considering the scale heteroscedasticity effect, the highest tax saving component (in magnitude) for persistent profit-making sample is temporary differences (TTD/BVE_{t-1}) and is subsequently followed by (in order) unclassified items ($TUNC/BVE_{t-1}$), tax losses ($TLOSS/BVE_{t-1}$), foreign tax rates differentials ($TFTR/BVE_{t-1}$) and permanent differences (TPD/BVE_{t-1}). Overall, based on the scaled components of tax saving, it can be concluded that for persistent profit-making sample, TTD/BVE_{t-1}, $TUNC/BVE_{t-1}$ and $TLOSS/BVE_{t-1}$ reduce the scaled statutory tax expense (or conversely, increase the tax saving). In contrast, TPD/BVE_{t-1} and $TFTR/BVE_{t-1}$ increase the scaled statutory tax expense (or conversely, decrease the tax saving). In terms of corporate governance and other specific characteristic data, the descriptive statistics of the sample can be generally summarised as similar to the data of the previous sample.

For non-persistent profit-making sample, the unclassified reconciliation items (TUNC) is reported as to be at constant "zero" value indicating no TUNC within the companies during the sample period. The highest tax saving (in £'000) is from temporary differences (TTD). The tax losses component (TLOSS) is in the second rank of the highest average of components of tax saving and this is

subsequently followed by (in order) permanent differences (TPD) and foreign tax rates differentials (TFTR). However, this rank is observed to be different for scaled components (by BVE_{t-1}). Considering the scale heteroscedasticity effect, the highest tax saving component (in magnitude) for non-persistent profit-making sample is temporary differences (TTD/BVE_{t-1}) and is subsequently followed by (in order) permanent differences (TPD/BVE_{t-1}), tax losses ($TLOSS/BVE_{t-1}$) and foreign tax rates differentials ($TFTR/BVE_{t-1}$). Overall, based on the scaled components of tax saving, it can be concluded that for non-persistent profit-making sample, TTD/BVE_{t-1}, TPD/BVE_{t-1} and $TLOSS/BVE_{t-1}$ reduce the scaled statutory tax expense (or conversely, increase the tax saving). In contrast, $TFTR/BVE_{t-1}$ increases the scaled statutory tax expense (or conversely, decreases the tax saving).

In terms of corporate governance data, the mean of board size (BSIZE) indicates an average of seven directors who serve the board. The board is described as consisting of an average of 61 per cent of non-executive directors (NED), which exhibits that the executive directors who serve the board are proportionately less than half of the total directors. The percentage of directors that serve more than one board or company (MDIR) is 31 per cent. The equity ownerships of these directors (DOWN) are described as an average of 0.86 per cent of total common equity which indicates a low level of ownership interest of directors. In contrast, the institutional ownership (IOWN) indicates an average of 62.12 per cent of substantial institutions' equity holding, which signifies a higher level of institutional interest than the level of the directors' interests. In terms of executive salary compensation (SAL), on average, the companies paid, to all executive directors, £694,500.

Table 7.6

Descriptive Statistics: Components of Tax Saving - Persistent Profit-Making Companies

n=405	Mean	Min	Max	Standard deviation
$MVE_{t+3months}$(£'000)	2268608.0000	6650.000	40034070.0000	5773970.0000
BVE_t(£'000)	753062.5000	8756.000	13700000.0000	1610579.0000
PBT_t(£'000)	192998.4000	434.0000	5146555.0000	529590.2000
$TLOSS_t$ (£'000)	772.8825	-28000.0000	140000.0000	9035.0980
TPD_t(£'000)	-360.7066	-135000.0000	211524.4000	18490.1400
TTD_t(£'000)	2539.1340	-22000.0000	151000.0000	12039.7600
$TFTR_t$(£'000)	1142.5880	-28526.1900	141727.8000	10915.4900
$TUNC_t$(£'000)	1019.4680	-32375.2100	72000.0000	6218.0910
CC_t(£'000)	12247.8200	-140000.0000	805000.0000	57809.89000
EM_t(£'000)	4329.0430	-13333000.0000	1133631.0000	153651.5000
$MVE_{t+3months}/BVE_{t-1}$	3.1749	0.5900	1.9133	18.9500
$BVE_t/BVEt_{-1}$	1.1315	0.2125	2.5527	0.2455
PBT_t/BVE_{t-1}	0.2579	0.0142	1.4302	0.1541
$TLOSS_t/BVE_{t-1}$	0.0002	-0.0656	0.0399	0.0088
TPD_t/BVE_{t-1}	-0.0026	-0.0981	0.0470	0.0131
TTD_t/BVE_{t-1}	0.0037	-0.0517	0.0758	0.0119
$TFTR_t/BVE_{t-1}$	-0.0002	-0.0482	0.0279	0.0075
$TUNC_t/BVE_{t-1}$	0.0012	-0.0634	0.0512	0.0066
CC_t/BVE_{t-1}	0.0340	-0.3224	1.2239	0.1254
EM_t/BVE_{t-1}	-0.0027	-0.5803	0.5670	0.1537
DIV_t	37.6907	0.0000	97.5700	23.1584
$CAPINT_t$	0.2129	0.0000	1.4747	0.2784
LEV_t	0.1488	0.0000	0.6443	0.1395
FS_t	37.8244	0.0000	112.9127	33.7966
$BSIZE_t$	8.3457	4.0000	16.0000	2.1877
NED_t	56.7061	0.0000	88.8889	13.5268
$DOWN_t$	6.7407	0.0000	60.4505	13.4265
$IOWN_t$	32.9850	0.0000	77.9400	17.1201
$MDIR_t$	48.6594	0.0000	100.0000	23.5774
SAL_t(£'000)	977.3479	86.0000	3894.0000	536.5355
SAL_t/BVE_{t-1}	0.0078	0.0001	0.0610	0.0094

Table 7.7

Descriptive Statistics: Components of Tax Saving – Non-Persistent Profit-Making Companies

n=2[67]	Mean	Min	Max	Standard deviation
$MVE_{t+3months}$(£'000)	157505.0000	128180.0000	186830.0000	41471.8200
BVE_t(£'000)	117508.5000	91700.0000	143317.0000	36498.7300
PBT_t(£'000)	8613.5000	4727.0000	12500.0000	5496.3410
$TLOSS_t$ (£'000)	-18.0000	-136.0000	100.0000	166.8772
TPD_t(£'000)	-130.0000	-1660.0000	1400.0000	2163.7470
TTD_t(£'000)	842.0000	600.0000	1084.0000	342.2397
$TFTR_t$(£'000)	-300.0000	-600.0000	0.0000	424.2641
$TUNC_t$(£'000)	0.0000	0.0000	0.0000	0.0000
CC_t(£'000)	417.5000	35.0000	800.0000	540.9367
EM_t(£'000)	5333.0000	3566.0000	7100.0000	2498.9150
$MVE_{t+3months}/BVE_{t-1}$	1.2500	0.7700	1.7300	0.6788
$BVE_t/BVEt_{-1}$	0.8554	0.8514	0.8593	0.0056
PBT_t/BVE_{t-1}	0.0722	0.0283	0.1161	0.0620
$TLOSS_t/BVE_{t-1}$	0.0001	-0.0008	0.0009	0.0012
TPD_t/BVE_{t-1}	0.0015	-0.0100	0.0130	0.0162
TTD_t/BVE_{t-1}	0.0060	0.0056	0.0065	0.0007
$TFTR_t/BVE_{t-1}$	-0.0028	-0.0056	0.0000	0.0039
$TUNC_t/BVE_{t-1}$	0.0000	0.0000	0.0000	0.0000
CC_t/BVE_{t-1}	0.0038	0.0002	0.0074	0.0051
EM_t/BVE_{t-1}	0.0437	0.0214	0.0659	0.0315
DIV_t	0.0000	0.0000	0.0000	0.0000
$CAPINT_t$	0.1247	0.0406	0.2088	0.1189
LEV_t	0.1306	0.1172	0.1441	0.0191
FS_t	23.9327	3.0232	44.8422	29.5705
$BSIZE_t$	6.5000	6.0000	7.0000	0.7071
NED_t	60.7143	50.0000	71.4286	15.1523
$DOWN_t$	0.8597	0.1064	1.6131	1.0654
$IOWN_t$	62.1200	62.0500	62.1900	0.0990
$MDIR_t$	30.9524	28.5714	33.3333	3.3672
SAL_t(£'000)	694.5000	567.0000	822.0000	180.3122
SAL_t/BVE_{t-1}	0.0051	0.0049	0.0053	0.0002

[67] The sample size is extracted from persistent and non-persistent profit-making sample. After exclusion of outliers and influential observations (discussed in Section 7.1), there are 455 persistent and non-persistent observations in which two observations are related to non-persistent profit-making companies.

7.3 Multivariate Results

The multivariate analyses are conducted after controlling for outliers (Chen *et al.*, 2005a) and influential observation (Belsley *et al.*, 1980). The independent variables are also tested for multicollinearity (Belsley *et al.*, 1980). In the case where multicollinearity exists (only related to the model that tests relationship between firm value, components of tax saving and corporate governance with interaction variables), centred variables are used (Aiken and West, 1991), as discussed in multicollinearity test section. In addition, heteroscedasticity tests reveal that the residuals' variances are not constant and hence the results are reported based on clustered adjusted t-statistics (Eicker, 1963; Huber, 1967; White, 1980). Consistent with the hypotheses (Chapter 5), the results are reported based on two sections: firstly, firm value and tax planning, and secondly, firm value, tax planning and corporate governance.

7.3.1 Firm Value and Tax Planning

Estimating the model to test the relationship between firm value and tax planning yields the results presented in Table 7.8. Three sets of results are reported in columns I, II and III. The results in the first and the second columns are respectively based on the full sample of 444 firm-year-ends (persistent profit-making companies) and 472 firm-year-ends (persistent and non-persistent profit-making companies). The third column reports the estimation results based on 405 firm-year-ends (persistent profit-making companies). The differences of these sample sizes, are due to the outliers and influential observations.

Column I presents the results of the estimation model that tests the relationship between firm value and the level of tax saving. Generally, the model is significant ($p<0.01$) with Wald chi-squared value of 563.77 and R-squared of 63.39 per cent. The result supports hypothesis H_{1a} that predicts the existence of the relationship between the extent of tax planning and firm valuation. Specifically, market value is found to be negatively related with the extent of tax saving. This result views tax planning as value-reducing either because these

activities are deemed to be associated with managers' moral hazard (Desai and Dharmapala, 2009), or because higher levels of tax planning can only be obtained if additional risks are taken (Slemrod, 2005; Chen *et al.*, 2010).

Column II reports the results of the relationship between firm value and tax planning of persistent and non-persistent profit-making companies. The model is significant ($p<0.01$) with Wald chi-squared value of 659.14 and R-squared of 62.55 per cent. Consistent with hypothesis H_{1b}, the results indicate that there is a relationship between the firm valuation and the extent of tax planning by non-persistent profit-making companies. The results also suggest significant different detrimental effect of tax saving by non-persistent profit-making companies on their firm value compared to the persistent profit-making companies since the NPSTDUMTS coefficient is significant. In addition, chi-squared test indicates reduced possibility of the total of both coefficients of TS and NPSTDUMTS to be equal to "zero", i.e. chi-squared value=9.05 at p=0.0026. This implies a negative perception by shareholders of the non-persistent profit-making companies' ability in conducting effective tax planning (Mills *et al.*, 1998).

In testing the hypotheses related to market valuation of the components of tax saving of persistent profit-making companies (H_{2a} – H_{2d}), the model that incorporates tax saving components as independent variables is further estimated. The model is significant ($p<0.01$) with Wald chi-squared value of 350.91 and R-squared of 57.36 per cent. Column III reports the results that indicate a significant negative relationship between market value and the permanent differences component of tax saving. This result supports hypothesis H_{2a} in predicting the relationship between the firm valuation and the extent of tax saving from permanent differences. However, the results on the market valuation of the other three components (temporary differences, tax losses and foreign tax rates differentials) are found to be not supportive of the hypotheses (H_{2b}, H_{2c} and H_{2d} respectively). Therefore, in general, it can be interpreted that the negative relationship between firm value and tax planning (as in Column I) is influenced by the permanent differences component of tax saving.

In terms of firm-specific variables, the results indicate significant positive relationships between firm value and three variables: book value of equity, profit before tax and the extent of foreign sales. Significant negative associations are found in earnings management and capital intensity. These results indicate that the shareholders decreasingly value the extent of the companies' involvement in earnings manipulation suggesting evidence of shareholders' concern on earnings quality. This evidence supports the argument on shareholders awareness of management discretion in financial reporting (Lev and Nissim, 2004). Similarly, the shareholders are also found to decreasingly value the extent of the companies' capital investment. This is consistent with the free cash flow hypothesis (Jensen, 1986) where managers are expected to "disgorge" the cash, for example as dividend, rather than investing it as capital expenditure since such investment may be inefficient if the expected rate of return is below the cost of capital, i.e. negative net present value (NPV). In addition to the above relationships, the results also show that there are no significant relationships documented between firm value and capital contribution, leverage and dividend. All of these results are consistent across the three estimation models, presented in Column I, II and III.

In testing the hypothesis H_{2e} which examines the difference in the relationships between market value and each of the four components of tax saving of persistent profit-making companies, the above components' coefficient estimates are further tested to consider their equality. The results indicate that the coefficients of components are different from one another with significant ($p<0.025$) chi-squared value of 10.00. To determine the difference between coefficient mean value of a component with the coefficient mean value of another component, the bivariate tests are conducted within coefficients of two components at a time. The mean differences are as tabulated in Table 7.9. The results show that the permanent differences are significantly different, in terms of valuation effect, from the other three components (TTD, TFTR and TLOSS). In turn, these three components are not significantly different from one another. Therefore, the results do not support the hypothesis as they show that the differences in the perceived benefits and agency-related risks exist only between

the permanent differences and the other three components, namely temporary differences, foreign tax rates differentials and tax losses.

In terms of the relationship between firm value and components of tax saving of non-persistent profit-making companies, there is insufficient variation in the tax saving components variables for non-persistent profit-making companies, i.e. interactions between the non-persistent dummy variable and the components of tax saving (NPSTDUM_TPD, NPSTDUM_TTD, NPSTDUM_TFTR, NPSTDUM_TLOSS and NPSTDUM_TUNC). From a total of 455 observations, there are only two observations related with non-persistent profit-making companies while the remaining observations (453) are related with persistent profit-making companies. This leads to a lack of variation of NPSTDUM_TPD, NPSTDUM_TTD, NPSTDUM_TFTR, NPSTDUM_TLOSS and NPSTDUM_TUNC since these interactive variables are defined as non-persistent dummy ("1" for non-persistent profit-making, "0" otherwise) multiplied with the respective components (TPD, TTD, TFTR, TLOSS, TUNC) which in turn implies constant "0" value for the 453 observations of the interactive variables. Therefore, analyses related to the components of tax saving of non-persistent profit-making companies cannot be carried out and hence, hypotheses H_{2f}, H_{2g}, H_{2h}, H_{2i}, H_{2j}, H_{4e}, H_{4f}, H_{4g} and H_{4h} cannot be tested.

Table 7.8

Regression Results: Firm Value and Tax Planning

	(I)	(II)	(III)
Dependent Variable (DV) = $MVE_{t+3months}$/ BVE_{t-1}	**Persistent Profit-Making Companies**	**Persistent and Non-Persistent Profit-Making Companies**	**Components of Tax Saving – Persistent Profit-Making Companies**
BVE	1.0814	1.0182	0.6795
	(4.53)***	(4.38)***	(2.51)**
PBT	10.0106	10.0056	9.6292
	(17.00)***	(17.76)***	(14.44)***
TS	-9.1967	-8.7621	-
	(-2.91)***	(-2.87)***	
NPSTDUMTS	-	-15.1616	-
		(-1.82)*	
TLOSS	-	-	-0.6925
			(-0.12)
TPD	-	-	-12.0853
			(-1.84)*
TTD	-	-	6.6822
			(1.36)
TFTR	-	-	6.4261
			(0.76)
TUNC	-	-	-3.3336
			(-0.29)
CC	0.1831	0.3676	0.3827
	(0.38)	(0.78)	(0.79)
EM	-2.8076	-2.8779	-2.5333
	(-6.42)***	(-6.82)***	(-5.54)***
CAPINT	-0.5308	-0.5591	-0.4537
	(-2.96)***	(-3.09)***	(-2.31)**
LEV	-0.2923	0.0243	-0.0448
	(-0.65)	(0.06)	(-0.11)
DIV	-0.0003	0.0001	0.0025
	(-0.14)	(0.05)	(1.44)
FS	0.0061	0.0049	0.0062
	(3.01)***	(2.44)**	(3.20)***
Cons	-0.1615	-0.2468	-0.0477
	(-0.45)	(-0.65)	(-0.12)
R-squared	63.39%	62.55%	57.36%
n	444	472	405
Wald chi^2	563.77***	659.14***	350.91***
	$16^{\#}$	$18^{\#}$	$20^{\#}$
Breusch-Pagan	82.98***	85.31***	76.60***
	$16^{\#}$	$18^{\#}$	$20^{\#}$

Figures in parentheses represent cross-section clustered Eicker-Huber-White adjusted t-statistics.
***, ** and * indicate significance at 1%, 2.5% and 5% respectively.
# indicates degree of freedom.

Table 7.9

Bivariate Test on Coefficients of Components of Tax Saving (from Column III of Table 7.8)

	TPD	TTD	FTR	TLOSS
TPD	0.0000			
TTD	18.7675 (8.0000)***	0.0000		
TFTR	18.5114 (4.3100)**	-0.2561 (0.0000)	0.0000	
TLOSS	12.7778 (3.3700)*	-7.3747 (1.9300)	-7.1186 (0.6500)	0.0000

Figures in parentheses represent chi-squared value.
***, ** and * indicate significance at 1%, 2.5% and 5% respectively.

7.3.2 Firm Value, Tax Planning and Corporate Governance

In considering the moderating influence of corporate governance on the relationship between firm value and tax planning, the above estimation models are further estimated with the inclusion of corporate governance variables, NED and IOWN. The results are reported in Table 7.10. Results reported in Column I are based on the full sample of 444 firm-year-ends (persistent profit-making companies).

Column I presents the findings of the estimation model that tests the moderating effect of corporate governance on the relationship between firm value and the level of tax saving of persistent profit-making companies. Generally, the model is significant ($p<0.01$) with Wald chi-squared value of 562.08 and R-squared of 64.34 per cent. Comparing the results with the results reported in Column I of Table 7.5, a consistent negative firm value-tax planning relationship is documented but at a larger magnitude of the tax planning coefficient estimate. Although the results, in general, show that corporate governance practice has an effect on the shareholders' tax planning valuation, the difference between the two coefficients' mean, i.e. with and without corporate governance variables, is not significant with chi-squared value of 0.02 ($p=0.9006$). Therefore, the results fail to support the arguments on the importance of corporate governance practice or conduct to shareholders (Henderson Global Investors, 2005; Desai and Dharmapala, 2009), particularly in the case of shareholders' tax planning

valuation. Therefore, hypothesis H_{3a}, which predicts the existence of a moderating effect of corporate governance on the relationship between firm value and tax planning of persistent profit-making companies, is not supported. In addition to the above-mentioned results, the results in Column I report a negative coefficient estimate of institutional ownership (IOWN) which supports Goergen and Renneboog's (2001) assertion on the passive and ineffective monitoring role played by U.K. institutional investors in acting in the best interests of the shareholders.

To further investigate the role of corporate governance, as described in Chapter 6, the model that is estimated to derive the results in Column I is further estimated with an addition of two interactive or moderating variables (TS_NED and TS_IOWN). As the implication of corporate governance on the relationship between firm value and tax planning may vary due to the corporate governance structure, these variables are used to test whether the relationship between market value and tax planning is conditional upon the strength of a company's corporate governance structures. Generally, the model is significant ($p<0.01$) with Wald chi-squared value of 509.13 and R-squared of 64.70 per cent. Column II reports the results of the analysis, which indicate that the previously significant relationship between firm value and tax planning no longer holds when the two interacting variables are included. This suggests that corporate governance structure has an effect on the shareholders' tax planning valuation. However, the lack of a significant coefficient associated with any of the two interactive variables makes it difficult to understand the nature of the relationship. Therefore, contrary to Desai and Dharmapala (2009), this result does not support the argument on the stronger effect of tax planning on firm value when the corporate governance structure is stronger.

Re-estimating the above models, which were estimated to derive the results in on the persistent and non-persistent profit-making sample, yields the results as reported in Column III and IV. Results reported in both columns are based on the full sample of 472 firm-year-ends (persistent and non-persistent profit-making companies). Results in Column III present the findings of the estimation model that tests the controlling effect of corporate governance on the relationship

between firm value and the level of tax planning of non-persistent profit-making companies. Generally, the model is significant ($p<0.01$) with Wald chi-squared value of 665.76 and R-squared of 63.54 per cent. Comparing the results with the initial results, a consistent negative relationship between firm value and the interaction variable between non-persistent dummy and tax saving (NPSTDUMTS) is documented. Similar to the above results of persistent profit-making companies, a larger magnitude of the interaction variables' coefficient estimate is documented when the corporate governance variables (NED and IOWN) are included in the estimation model. However, the coefficient estimate of the NPSTDUMTS with corporate governance variables is not significantly different as compared to the coefficient estimates of the NPSTDUMTS without corporate governance variables, i.e. chi squared value of 0.03 ($p=0.8636$). These results, therefore, do not indicate the importance of corporate governance practice to shareholders (Henderson Global Investors, 2005; Desai and Dharmapala, 2009), particularly among those companies with a reduced possibility of succeeding in long-run tax planning (Dyreng *et al.*, 2008). Therefore, based on the results, in general, corporate governance practice cannot be concluded as a factor that could increase shareholders' confidence in valuing tax planning activities of non-persistent profit-making companies and hence the results fail to support hypothesis H_{3b} that predicts the existence of the corporate governance moderating effects on the relationship between the firm value and extent of tax planning activities of non-persistent profit-making companies.

Following the above analysis, to further investigate the role of corporate governance of non-persistent profit-making companies, the model is re-estimated with an addition of two non-persistent-related interactive or moderating variables (NPSTDUMTS_NED and NPSTDUMTS _IOWN, as detailed in Chapter 6). These variables are used to test whether the relationship between market value and tax planning of non-persistent profit-making companies is conditional upon the strength of a firm's corporate governance structures. The results of the analysis are reported in Column IV of Table 7.10. Generally, the model is significant ($p<0.01$) with Wald chi-squared value of 779.96 and R-squared of 63.85 per cent. The results from the analysis indicate that the previously significant relationship between firm value and tax planning of non-persistent

profit-making companies (NPSTDUMTS) no longer holds when the two interacting variables are included. This suggests that corporate governance structure of non-persistent profit-making companies has an effect on the shareholders' tax planning valuation. Interestingly, the results respectively reveal significant negative and positive relationships between firm value and NPSTDUMTS_NED and NPSTDUMTS_IOWN. These results indicate that the relationship between market value and tax planning of non-persistent profit-making companies is dependent on the strength of corporate governance structures. These relationships could be due to different perceptions of shareholders on the effectiveness of these two mechanisms in mitigating agency conflict. These suggest that shareholders perceive that the non-executive directors are not acting in the best interests of the shareholders in increasing their wealth in monitoring tax planning activities, as discussed in Chapter 4, possibly due to political constraints imposed on these types of directors (Agrawal and Knoeber, 1996). On the other hand, in terms of institutional ownership, the results suggest that, due to greater incentive to control the managers (Desai and Dharmapala, 2009), shareholders perceive that the institutional investors are an effective mechanism to protect shareholders' welfare in tax planning activities. This is in contradiction to the argument of a passive role played by U.K. institutional investors (Goergen and Renneboog, 2001), particularly in the case of non-persistent profit-making companies.

Table 7.10

Regression Results: Firm Value, Tax Planning and Corporate Governance

	(I)	(II)	(III)	(IV)
DV = $MVE_{t+3months}$/ BVE_{t-1}	**Persistent Profit-Making Companies**		**Persistent and Non-Persistent Profit-Making Companies**	
BVE	1.1167	1.1286	1.0476	1.0412
	(4.68)***	(4.83)***	(4.49)***	(4.47)***
PBT	10.0020	10.0312	9.9651	10.0062
	(16.79)***	(16.87)***	(17.49)***	(17.72)***
TS	-9.5925	2.9235	-8.9669	-1.1744
	(-3.03)***	(0.30)	(-2.95)***	(-0.13)
NED	0.0080	0.0096	0.0038	0.0051
	(1.48)	(1.74)*	(0.69)	(0.91)
IOWN	-0.0074	-0.0070	-0.0071	-0.0071
	(-1.89)*	(-1.66)*	(-1.85)*	(-1.71)*
TS_NED	-	-0.1681	-	-0.0896
		(-1.07)		(-0.62)
TS_IOWN	-	-0.0817	-	-0.0813
		(-0.56)		(-0.56)
NPSTDUMTS	-	-	-16.6662	26.5009
			(-1.90)*	(1.17)
NPSTDUMTS_NED	-	-	-	-1.0958
				(-2.20)**
NPSTDUMTS_IOWN	-	-	-	0.6708
				(1.91)*
CC	0.1048	0.0731	0.3101	0.3000
	(0.22)	(0.16)	(0.66)	(0.64)
EM	-2.7992	-2.7651	-2.8776	-2.8854
	(-6.31)***	(-6.19)***	(-6.72)***	(-6.77)***
CAPINT	-0.5163	-0.5175	-0.5291	-0.5131
	(-2.96)***	(-2.95)***	(-3.00)***	(-2.88)***
LEV	-0.4862	-0.4577	-0.1128	-0.0758
	(-1.09)	(-1.01)	(-0.28)	(-0.19)
DIV	-0.0002	-0.0003	-0.0001	-0.0003
	(-0.13)	(-0.17)	(0.00)	(-0.15)
FS	0.0058	0.0057	0.0048	0.0047
	(2.84)***	(2.78)***	(2.39)**	(2.36)**
Cons	-0.3715	-0.4879	-0.2171	-0.2658
	(-0.81)	(-1.05)	(-0.47)	(-0.57)
R-squared	64.34%	64.70%	63.54%	63.85%
n	444	444	472	472
Wald chi^2	562.08***	509.13***	665.76***	779.96***
	$18^{\#}$	$20^{\#}$	$20^{\#}$	$24^{\#}$
Breusch-Pagan	83.95***	84.70***	87.62***	88.29***
	$18^{\#}$	$20^{\#}$	$20^{\#}$	$24^{\#}$

Figures in parentheses represent cross-section clustered Eicker-Huber-White adjusted t-statistics.
***, ** and * indicate significance at 1%, 2.5% and 5% respectively.
# indicates degree of freedom.

In addition to the above analyses, the firm value is also regressed on components of tax saving, corporate governance and other firm-specific variables to investigate whether corporate governance moderates the relationship between firm value and components of tax saving of persistent profit-making companies. The results from the analysis are reported in Column I of Table 7.11. Generally, the model is significant ($p<0.01$) with Wald chi-squared value of 363.70 and R-squared of 58.84 per cent. Comparing the results with the initial results, a consistent negative relationship between firm value and permanent difference is documented but the coefficient estimate is found to be larger. However, the coefficient estimate of the TPD with corporate governance is not significantly different at five per cent level compared to the coefficient estimates of the TPD without corporate governance variables, i.e. chi squared value of 0.00 ($p=0.9659$). This result fails to support the argument on the importance of corporate governance practice to shareholders (Henderson Global Investors, 2005; Desai and Dharmapala, 2009). In addition, the results do not provide indications of a significant moderating effect of corporate governance on the relationship between firm value and the other three components of tax saving, i.e. temporary differences (TTD), tax losses (TLOSS), and foreign tax rates differentials (TFTR). Therefore, it can be concluded that the results fail to support hypotheses H_{4a}, H_{4b}, H_{4c} and H_{4d}.

To further investigate the role of corporate governance, as described in Chapter 6, the model that is estimated to derive the results in Column I is further re-estimated with an addition of 10 interactive or moderating variables (TLOSS_NED, TLOSS_IOWN, TPD_NED, TPD_IOWN, TTD_NED, TTD_IOWN, TFTR_NED, TFTR_IOWN, TUNC_NED and TUNC_IOWN). These variables are used to test whether the relationship between market value and components of tax saving is conditional upon the strength of a company's corporate governance structures. However, as discussed in the section on multicollinearity, there is a significant multicollinearity between four independent variables of this model, i.e. TLOSS, TPD, TLOSS_NED and TPD_NED. Given that the multicollinearity only exists in the model upon the inclusion of the two interactive variables (TLOSS_NED and TPD_NED), following suggestion by Aiken and West (1991), to remedy the multicollinearity

that is caused by the multiplicative interaction variables, the data of the interactive-related variables (TLOSS, TPD and NED) are centred, i.e. subtracting the variables' means from the data of the relative variables, before multiplying the variables to generate the centred interaction variables. As discussed in multicollinearity section, testing the multicollinearity after substituting the two interactive variables (TLOSS_NED and TPD_NED) with centred TLOSS_NED and TPD_NED in the model estimated in Column II of Table 7.11 yields to insignificant multicollinearity, i.e. variance-decomposition proportion of less than 0.5 (Belsley *et al.*, 1980). Therefore, the results of TLOSS_NED and TPD_NED reported in Column II of Table 7.11 are based on centred TLOSS_NED and TPD_NED.

Generally, the model (Column II of Table 7.11) is significant ($p<0.01$) with Wald chi-squared value of 501.66 and R-squared of 59.66 per cent. The results of the analysis indicate that the previously significant relationship between firm value and permanent difference disappears when the interacting variables are included. This suggests that corporate governance structure has an effect on the shareholders' permanent differences component valuation. However, the lack of a significant coefficient associated with any of the two interactive variables between TPD and corporate governance variables (NED and IOWN) makes it difficult to understand the nature of the relationship. In contrast, the firm value appears to positively significant related with tax losses (TLOSS) upon the inclusion of the interactive variables. In addition, firm value is also found to be significant and negatively related with three interactive variables: TLOSS_IOWN, TFTR_IOWN and TUNC_IOWN. These suggest that the moderating effects of corporate governance on tax losses, foreign tax rates differentials and unclassified components are conditional upon the strength of the institutional ownership. Consistent with the initial results on the negative relationship between firm value and institutional ownership (IOWN) reported in Column I of Table 7.11, these may be due to negative perception of shareholders on the effectiveness of U.K. institutional investors in protecting shareholders' welfare (Goergen and Renneboog, 2001; Florackis, 2005).

Table 7.11

Regression Results: Firm Value, Components of Tax Saving and Corporate Governance

	(I)	**(II)**
DV = $MVE_{t+3months}$/ BVE_{t-1}	**Persistent Profit-Making Companies**	**Persistent Profit-Making Companies**
BVE	0.7167	0.6872
	(2.55)**	(2.36)**
PBT	9.5480	9.5579
	(14.14)***	(14.16)***
TLOSS	-1.7713	28.10
	(-0.31)	(2.12)**
TPD	-12.3547	-11.9780
	(-1.96)**	(-0.87)
TTD	7.0694	27.1291
	(1.47)	(1.05)
TFTR	5.6768	8.5627
	(0.69)	(0.21)
TUNC	-5.8766	2.4099
	(-0.54)	(0.04)
NED	0.0075	0.0063
	(1.44)	(1.22)
IOWN	-0.0083	-0.0052
	(-2.10)**	(-1.35)
TLOSS_NED^	-	-0.1644
		(-0.39)
TLOSS_IOWN	-	-0.8953
		(-2.50)**
TPD_NED^	-	-0.3556
		(-0.70)
TPD_IOWN	-	-0.0351
		(-0.09)
TTD_NED	-	-0.1831
		(-0.45)
TTD_IOWN	-	-0.3633
		(-1.06)
TFTR_NED	-	0.4928
		(0.74)
TFTR_IOWN	-	-0.8802
		(-1.80)*
TUNC_NED	-	0.4366
		(0.51)
TUNC_IOWN	-	-1.0541
		(-2.35)**
CC	0.3319	0.4791
	(0.71)	(0.98)
EM	-2.5750	-2.5007
	(-5.46)***	(-5.17)***
CAPINT	-0.4714	-0.5063
	(-2.44)**	(-2.62)***

LEV	-0.2551	-0.2047
	(-0.61)	(-0.48)
DIV	0.0026	0.0025
	(1.51)	(1.46)
FS	0.0059	0.0055
	(2.96)***	(2.88)***
Cons	-0.1855	-0.1981
	(-0.41)	(-0.43)
R-squared	58.84%	59.66%
n	405	405
Wald chi^2	363.70***	501.66***
	$22^{\#}$	$32^{\#}$
Breusch-Pagan	77.60***	88.51***
	$22^{\#}$	$32^{\#}$

Figures in parentheses represent cross-section clustered Eicker-Huber-White adjusted t-statistics.
***, ** and * indicate significance at 1%, 2.5% and 5% respectively.
# indicates degree of freedom.
^ indicates centred variable.

In addition to the above analyses, to further examine the role of corporate governance on the relationship between firm value and tax planning, firm value is regressed on tax saving based on a split sample around the median of corporate governance score (median=1782.75), on the basis that both higher institutional ownership and proportion of non-executive directors would positively contribute to better governance (Zahra and Pearce, 1989; Florackis, 2008). The score is computed by multiplying NED with IOWN. The results are reported in Table 7.12. Column I focuses on "high" governance firms-years and Column II focuses on "low" governance firms-years of persistent profit-making companies. Column III and Column IV respectively report the results based on "high" governance firms-years and "low" governance firms-years of combined persistent and non-persistent profit-making companies.

Interestingly, the tax planning variables of both "high" and "low" governance firms-years show different significant levels and magnitudes of tax planning coefficient estimates. The model that is estimated to derive the results in Column I is generally significant ($p<0.01$) with Wald chi-squared value of 838.15 and R-squared of 61.17 per cent. Similarly, the model that is estimated to derive the results in Column II is also significant ($p<0.01$) with Wald chi-squared value of 465.98 and R-squared of 71.66 per cent. Among "high" corporate governance firms, there is a significant negative relationship ($p<0.05$) between market value

and tax planning. Within the "high" corporate governance firms, as compared to the "low" corporate governance firms, the negative relationship is found to be stronger with a more significant ($p<0.025$) and higher magnitude of tax planning coefficient estimate. Although this suggests that, for "low" governance firms, increased tax planning is associated with even lower market value, the difference between the two coefficients' mean is not significant at five per cent level of which the chi-squared value is 0.03 ($p=0.8517$).

In the case of non-persistent profit-making companies, the models are significant ($p<0.01$) with Wald chi-squared value of 833.87 and 1217.30 respectively for "high" governance firms-years and "low" governance firms-years of combined persistent and non-persistent profit-making companies. The reported R-squared for the results in Column III is 55.65 per cent while Column IV is 70.31 per cent. The results show that, among the "high" corporate governance observations, there is no significant relationship between market value and tax saving of non-persistent profit-making companies (NPSTDUMTS), either negative or positive. However, within the "low" governance firms-years, there is a negative relationship between market value and tax planning of non-persistent profit-making companies (NSTDUMTS). The coefficients of the NPSTDUMTS of both "high" and "low" governance firms-years are found to be significantly different from one another (chi-squared=36.86, $p<0.01$) suggesting that, for "low" governance firms, increased tax planning by non-persistent profit-making companies is associated with lower market value. Therefore, in line with Desai and Dharmapala (2009), it can be concluded that corporate governance practice is perceived as important by shareholders in valuing tax planning activities of non-persistent profit-making companies.

Table 7.12

Regression Results: Firm Value, Tax planning and Corporate Governance – "High" and "Low" Governance Firms-Years

	(I)	(II)	(III)	(IV)
	Persistent Profit-Making Companies		**Persistent and Non-Persistent Profit-Making Companies**	
DV = $MVE_{t+3months}$/ BVE_{t-1}	**"High" governance firms-years**	**"Low" governance firms-years**	**"High" governance firms-years**	**"Low" governance firms-years**
BVE	1.2592	0.6055	1.0236	0.6530
	(3.88)***	(1.47)	(3.42)***	(1.72)*
PBT	9.8773	10.7235	9.2070	11.0867
	(16.12)***	(10.92)***	(13.62)***	(14.85)***
TS	-8.0161	-8.8816	-8.5759	-8.4712
	(-1.76)*	(-2.03)**	(-2.11)**	(-1.90)*
NPSTDUMTS	-	-	-0.3692	-28.4233
			(-0.04)	(-2.33)**
CC	-0.0238	0.4513	0.6713	0.3979
	(-0.03)	(0.89)	(0.98)	(0.80)
EM	-0.9329	-2.9649	-2.7313	-2.9713
	(-5.15)***	(-4.88)***	(-5.59)***	(-4.78)***
CAPINT	-0.3598	-0.7671	-0.4691	-0.6550
	(-1.69)*	(-2.22)**	(-2.36)**	(-1.81)*
LEV	0.0247	-1.0018	0.2096	-0.4129
	(0.04)	(-1.62)	(0.35)	(-0.76)
DIV	-0.0006	-0.0007	0.0005	-0.0008
	(-0.22)	(-0.23)	(0.19)	(-0.30)
FS	0.0017	0.0096	-0.0001	0.0091
	(0.62)	(3.48)***	(-0.05)	(3.45)***
Cons	-0.0878	0.2259	0.0290	0.0212
	(-0.19)	(0.36)	(0.06)	(0.04)
R-squared	61.17%	71.66%	55.65%	70.31%
n	222	222	236	236
Wald chi^2	838.15***	465.98***	833.87***	1217.30***
	$16^{\#}$	$16^{\#}$	$17^{\#}$	$18^{\#}$
Breusch-Pagan	34.63***	55.13***	36.86***	46.75***
	$16^{\#}$	$16^{\#}$	$17^{\#}$	$18^{\#}$

Figures in parentheses represent cross-section clustered Eicker-Huber-White adjusted t-statistics.
***, ** and * indicate significance at 1%, 2.5% and 5% respectively.
# indicates degree of freedom.

7.4 Multicollinearity and Heteroscedasticity

Prior to the above multivariate analyses, the data and the estimations were tested to determine any inter-correlation of the independent variables. In addition, the data was tested for heteroscedasticity in order to identify whether cross-section variances are constant or otherwise.

7.4.1 Multicollinearity

Multicollinearity is a condition when two or more independent variables correlate with each other (Hair *et al.*, 2006). Therefore, it is important to detect and correct any multicollinearity problem before conducting the multivariate analysis so that the relationship between the dependent variable and the independent variables can be determined vigorously (Hair *et al.*, 2006). For this purpose, three diagnostic tests have been conducted. The tests consist of analyses of correlation coefficients, variance inflation factors and variance-decomposition proportions.

In the analyses of correlation coefficients, high coefficients of correlation matrix of the independent variables (0.9 and higher) signify initial indications of substantial collinearity (Hair *et al.*, 2006). The correlation coefficients of the variables of the estimation models relating to persistent profit-making companies, combined persistent and non-persistent profit-making companies and components of tax saving are respectively presented in Table 7.13, Table 7.14 and Table 7.15. The bolded coefficients are the coefficients that are higher than 0.9. From the correlation matrices, for persistent profit-making companies (Table 7.13), there is one correlation coefficient that is higher than 0.9 (0.9781), i.e. the coefficient of the correlation between TS and TS_NED. For combined persistent and non-persistent profit-making companies (Table 7.14), there are two correlation coefficients that are higher than 0.9, i.e. the coefficients of the correlations between TS and TS_NED (0.9773) and between NPSTDUMTS and NPSTDUMTS_NED (0.9708). For components of tax saving (Table 7.15), there are 10 correlation coefficients are higher than 0.9, i.e. the coefficients of the

correlations between TLOSS and TLOSS_NED (0.9886), between TPD and TPD_NED (0.9862), between TPD and TPD_IOWN (0.9032), between TTD and TTD_NED (0.9822), between TTD and TTD_IOWN (0.9164), between TFTR and TFTR_NED (0.9762), between TFTR and TFTR_IOWN (0.9260), between TUNC and TUNC_NED (0.9869), between TTD_NED and TTD_IOWN (0.9143) and between TFTR_NED and TFTR_IOWN (0.9274). These indicate an initial possibility of extreme multicollinearity.

However, as the correlation coefficient explains the relationship of only two variables, this analysis does not guarantee the existence of multicollinearity, that is the collinearity condition due to the combined effects of two or more variables (Hair *et al.*, 2006). Therefore, variance inflation factors (VIF) are used to further investigate the existence of multicollinearity. VIF measures the multicollinearity by inversing the tolerance value. Tolerance value is a value that measures the variability of an independent variable that is not explained by the other independent variables (Hair *et al.*, 2006).[68] Therefore, a "large" value of VIF indicates "high" multicollinearity. The VIF values of the variables of all models are presented in Table 7.16. The table consists of nine columns (Columns I - IX). Column I is related to the model that tests the relationship between firm value and tax planning of persistent profit-making companies, Column II is related to the model that tests the relationship between firm value and tax planning of combined persistent and non-persistent profit-making companies, Column III is related to the model that tests the relationship between firm value and components of tax saving of persistent profit-making companies, Column IV is related to the model that tests the relationship between firm value, tax planning and corporate governance of persistent profit-making companies, Column V is related to the model that tests the relationship between firm value, tax planning and corporate governance of persistent profit-making companies with interaction variables, Column VI is related to the model that tests the relationship between firm value, tax planning and corporate governance of combined persistent and non-persistent profit-making companies, Column VII is related to the model that

[68]Tolerance is calculated by 1.0 minus R-squared of the regression that is analysed without the selected independent variable. Subsequently, VIF is computed by dividing 1 with the tolerance value.

tests the relationship between firm value, tax planning and corporate governance of combined persistent and non-persistent profit-making companies with interaction variables, Column VIII is related to the model that tests the relationship between firm value, components of tax saving and corporate governance of persistent profit-making companies and Column IX is related to the model that tests the relationship between firm value, components of tax saving and corporate governance of persistent profit-making companies with interaction variables. There are 17 VIF values that indicate significant multicollinearity between the independent variables (bolded in Table 7.16), i.e. VIF higher than 10.00 (Hair *et al.*, 2006). The related variables consist of TS and TS_NED (VIF of 31.08 and 27.26 respectively) in Column V, TS, NPSTDUMTS, TS_NED and NPSTDUMTS_NED (VIF of 31.78, 20.09, 27.02 and 21.53 respectively) in Column VII, TLOSS, TPD, TTD, TFTR, TUNC, TLOSS_NED, TPD_NED, TTD_IOWN, TTD_NED, TFTR_NED, and TUNC_NED (VIF of 55.11, 65.24, 38.82, 26.63, 50.98, 52.61, 50.93, 11.73, 37.23, 27.99 and 45.27 respectively) in Column IX. These suggest that the multicollinearity exists in relation to the interactive variables.

Although these VIF values indicate an increased possibility of extreme multicollinearity, based on the argument that VIF is unable to differentiate between several coexisting near dependencies and is numerical unstable (Belsley *et al.*, 1980), variance-decomposition proportions analysis is further conducted to determine the existence of multicollinearity.[69] The summary of the analysis of the test is reported in Table 7.17. The analysis shows that the significant multicollinearity exists only within the model that tests the relationship between firm value, components of tax saving and corporate governance of persistent profit-making companies with interaction variables (two condition indices that are above 30, i.e. 33.75 and 35.66). The reported "large" variance-decomposition proportions of the independent variables of the model, i.e. higher than 0.5, are related to TLOSS, TPD, TLOSS_NED and TPD_NED (variance-

[69] According to Belsley *et al.* (1980), multicollinearity exists only if the following two conditions are satisfied: "high" condition index (30 or more) and "high" variance-decomposition proportions (0.5 or more) of two or more estimated regression coefficient variances.

decomposition proportions of 0.54, 0.75, 0.55 and 0.74 respectively).[70] Based on the above analysis, since the significant multicollinearity does not exist within other models, it can be concluded that the significant multicollinearity of the independent variables exists only when the interaction variables (TLOSS_NED and TPD_NED) are included in the estimation model.

To minimise the multicollinearity due to the interaction variables, Aiken and West (1991) recommend "data centring" in which (as discussed in Section 7.3.2) the variables related to the interactive variables, i.e. TPD, TLOSS and NED, are recalculated as to reflect the difference between the variables and their respective mean values. Subsequently, the interactive variables (TLOSS_NED and TPD_NED) are recalculated by multiplying the centred TLOSS with centred NED to derive centred TLOSS_NED, and by multiplying the centred TPD with centred NED to derive centred TPD_NED. This "data centring" is found to be an appropriate approach as it can eliminate "nonessential ill-conditioning" of the un-centred variables (Aiken and West, 1991). Therefore, the model that tests the relationship between firm value, components of tax saving and corporate governance of persistent profit-making companies with interaction variables is estimated using centred TLOSS_NED and centred TPD_NED. To ensure that the multicollinearity in the model is no longer excessive, the variance-decomposition proportions of the model that utilises the centred interactive variables are analysed. Based on the test, as expected, there is no significant multicollinearity detected as the two conditions specified by Belsley *et al.* (1980) are not satisfied, i.e. "high" condition index (30 or more) and "high" variance-decomposition proportions (0.5 or more) of two or more estimated regression coefficient variances, in which the highest condition index is 30.96 with the highest variance-decomposition proportion of 0.37 (BVE).

As the model that tests the relationship between firm value, components of tax saving and corporate governance with interaction variables indicates significant multicollinearity, to examine the multicollinearity issue in the sensitivity analysis (Section 7.5), the models that are related to the model that tests the relationship

[70] Ibid.

between firm value, components of tax saving and corporate governance with interaction variables are also tested for robustness check in further tests (Section 7.5). In analysing the sensitivity of the results upon the alternative market value measurement date, the highest condition index and variance-decomposition proportions of the initial model, i.e. without centring the interactive variables, exhibit significant multicollinearity (the highest condition index is 35.66 and variables in which the variance-decomposition proportions that are more than 0.5 are TLOSS_NED (0.74) and TPD_NED (0.55). After centring both interaction variables, the variance-decomposition proportions indicate insignificant multicollinearity (i.e. below 0.5). Therefore, the model is analysed after centring both variables (TLOSS_NED and TPD_NED).

In a further test that analyses the sensitivity of the results upon choice of deflators, the highest condition index and variance-decomposition proportions of the initial model, i.e. without centring the interactive variables, exhibit significant multicollinearity (the highest condition indices for the models where the deflators are number of shares, opening market value and sales are respectively 41.85, 33.83 and 45.95, and the variables in which the variance-decomposition proportions that are more than 0.5 are TLOSS_NED (0.63), TPD_NED (0.92) and TTD_NED (0.69) for number of shares; TLOSS_NED (0.53), TPD_NED (0.51) and TUNC_NED (0.59) for opening market value; and TLOSS_NED (0.54), TPD_NED (0.91) and TUNC_NED (0.82) for sales. After centring the interaction variables, the condition indices indicate insignificant multicollinearity (i.e. below 30). Therefore, the model is analysed after centring the related interactive variables (TLOSS_NED, TPD_NED and TTD_NED for number of shares; TLOSS_NED, TPD_NED and TUNC_NED for opening market value; and TLOSS_NED, TPD_NED and TUNC_NED for sales).

In analysing the sensitivity of the results upon the alternative market value measure, the highest condition index and variance-decomposition proportions of the initial model, i.e. without centring the interactive variables, exhibit significant multicollinearity (the highest condition index is 35.83 and variables in which the variance-decomposition proportions that are more than 0.5 are TLOSS_NED (0.51), TTD_NED (0.53) and TUNC_NED (0.80). After centring the interaction

variables, the condition indices indicate insignificant multicollinearity (i.e. below 30). Therefore, the model is analysed after centring three interaction variables (TLOSS_NED, TTD_NED and TUNC_NED).

In assessing the sensitivity of the results upon the reclassification of unclassified items, the highest condition indices and variance-decomposition proportions of the initial model when the TUNC is reclassified as TPD and TTD, i.e. without centring the interactive variables, exhibit significant multicollinearity (the highest condition indices are 33.55 and 30.76 respectively, and variables in which the variance-decomposition proportions that are more than 0.5 are TLOSS_NED (0.65) and TPDUNC_NED (0.51) when TUNC is reclassified as TPD, and TLOSS_NED (0.63), TPD_NED (0.5) and TTDUNC_NED (0.80) when TUNC is reclassified as TTD. After centring the interaction variables, the variance-decomposition proportions indicate insignificant multicollinearity (i.e. below 0.5). Therefore, the model is analysed after centring the interaction variables (TLOSS_NED and TPDUNC_NED when TUNC is reclassified as TPD, and TLOSS_NED, TPD_NED and TTDUNC_NED when TUNC is reclassified as TTD).

7.4.2 Heteroscedasticity

Heteroscedasticity test is related to analysis of the relationship between the dependent variable and cross-section error term. The existence of heteroscedasticity leads to unequal variance circumstances in which the dispersion of the values of the dependent variable is not constant across the values of the independent variables (Hair *et al.*, 2006). The presence of heteroscedasticity indicates that the variance of the dependent variable is not equally explained by each of the independent variables and thus limits the explanation of the effects of the regressors. This in turn will lead to incorrect estimation of the standard errors and, hence, the results from hypotheses testing will also be biased. Therefore, three heteroscedasticity tests have been conducted to determine the extent of the heteroscedasticity, which are based on Breusch and Pagan (1979), White (1980) and Cook and Weisberg (1983). Overall, the tests

for all of the estimation models indicate a significant level of heteroscedasticity in which the variances are not constant. Therefore, to control for heteroscedasticity, robust standard errors should be used in the analyses (Eicker, 1963; Huber, 1967; White, 1980).

However, due to repeated accounting and firm-specific observations of the companies that have common features (i.e. data within the same year-end) across times, panel data in accounting is said to potentially suffer from a serious cross-sectional dependence problem (Bernard, 1987). It is argued that the analyses that use robust standard errors could violate the regression models assumption since they do not consider the above-mentioned cross-sectional correlation (Hoechle, 2007). Thus, robust standard errors are found to be inconsistent in terms of variance-covariance estimate as it assumes the errors are independently distributed (Baum, 2006). Therefore, following Cameron and Trivedi (2005) and Baum (2006), the above multivariate analyses were conducted using cross-section clustered Eicker-Huber-White robust standard errors. This method is appropriate for application in this study as it eliminates the deficiencies of alternative methods, for example, panel corrected standard errors, that are not suitable for application within the dataset that has a large cross-sectional dimension (n, as reported in all tables) but a small time dimension (year), i.e. three years for this study (Hoechle, 2007; Petersen, 2009). This estimation corrects both errors of heteroscedasticity and non-normality dispersion (Hair *et al.*, 2006).

Table 7.13

Pearson Correlation Matrix: Persistent Profit-Making Companies

n=444	MVE	BVE	PBT	TS	NED	IOWN	CC	EM	CAPINT	LEV
MVE	1.0000									
BVE	0.4667***	1.0000								
PBT	0.7765***	0.3208***	1.0000							
TS	0.0794*	0.0024	0.2811	1.0000						
NED	0.0066	-0.0246	-0.0669	0.1149**	1.0000					
IOWN	0.0160	0.0252	-0.0256	-0.1001**	0.1414***	1.0000				
CC	0.2566***	0.7610***	0.0840*	-0.1051**	0.0215	-0.0028	1.0000			
EM	-0.1586***	-0.0229	0.1224***	0.0652	-0.1098**	-0.0760	-0.0453	1.0000		
CAPINT	-0.1708***	-0.1287***	-0.1321***	0.0122	0.0193	0.0082	-0.0728	-0.1075**	1.0000	
LEV	0.0072	-0.0146	-0.0132	0.2088***	0.2589***	-0.0750	0.0321	-0.2390***	0.0647	1.0000
DIV	0.0285	-0.1015**	0.0602	0.0444	0.0169	-0.0536	-0.0453	0.0242	0.1988***	0.1102**
FS	0.1174**	0.0765	0.0084	-0.0460	0.1400	0.0679	0.0936**	0.0205	0.1336***	-0.0553
TS_NED	0.0971**	0.0030	0.2934***	**0.9781***	0.1795***	-0.0891*	-0.1048**	0.0595	0.0073	0.2251***
TS_IOWN	0.0199	-0.0112	0.1913***	0.8541***	0.1160**	0.0672	-0.0953**	0.0645	0.0121	0.2099***

***, ** and * indicate significant level at 1%, 2.5% and 5% respectively.

Table 7.13...continue

Pearson Correlation Matrix: Persistent Profit-Making Companies

n=444	DIV	FS	TS_NED	TS_IOWN
DIV	1.0000			
FS	-0.0038	1.0000		
TS_NED	0.0591	-0.0370	1.0000	
TS_IOWN	0.0025	-0.0746	0.8266***	1.0000

***, ** and * indicate significant level at 1%, 2.5% and 5% respectively.

Table 7.14

Pearson Correlation Matrix: Persistent and Non-Persistent Profit-Making Companies

n=472	MVE	BVE	PBT	TS	NPSTDUMTS	NED	IOWN	CC	EM
MVE	1.0000								
BVE	0.4508***	1.0000							
PBT	0.7815***	0.3094***	1.0000						
TS	0.0378	-0.0174	0.2281***	1.0000					
NPSTDUMTS	-0.0752	-0.0201	0.0081	0.2105***	1.0000				
NED	0.0155	-0.0157	-0.0393	0.0914**	-0.0292	1.0000			
IOWN	0.0029	0.0181	-0.0432	-0.1178**	-0.1035**	0.1304***	1.0000		
CC	0.2507***	0.7486***	0.0755	-0.1115**	-0.0540	0.0176	-0.0024	1.0000	
EM	-0.1295***	-0.0144	0.1554***	0.0574	0.0426	-0.1238***	-0.0890*	-0.0429	1.0000
CAPINT	-0.1594***	-0.1201***	-0.1382***	0.0263	-0.0056	-0.0133	0.0054	-0.0704	-0.1252***
LEV	0.0009	-0.0233	-0.0294	0.2159***	0.0335	0.2717***	-0.0783*	0.0260	-0.2096***
DIV	0.0243	-0.0919**	0.1111**	0.0366	-0.0701	0.0242	-0.0567	-0.0795*	0.0526
FS	0.1251***	0.0818	0.0288	-0.0605	0.0320	0.1343***	0.0579	0.0932**	0.0033
TS_NED	0.0542	-0.0186	0.2389***	**0.9773****	0.1787***	0.1494***	-0.1046**	-0.1096**	0.0440
TS_IOWN	-0.0091	-0.0246	0.1495***	0.8548***	0.1405***	0.0975	0.0531	-0.1001**	0.0617
NPSTDUMTS_NED	-0.0777*	-0.0252	0.0086	0.2057***	**0.9708****	-0.0036	-0.1000**	-0.0593	0.0253
NPSTDUMTS_IOWN	-0.0439	-0.0065	0.0120	0.1677***	0.7342***	-0.0158	-0.0319	-0.0491	0.0596

***, ** and * indicate significant level at 1%, 2.5% and 5% respectively.

Table 7.14…continue
Pearson Correlation Matrix: Persistent and Non-Persistent Profit-Making Companies

n=472	CAPINT	LEV	DIV	FS	TS_NED	TS_IOWN	NPSTDUMTS_NED	NPSTDUMTS_IOWN
CAPINT	1.0000							
LEV	0.0820*	1.0000						
DIV	0.1892***	0.1065**	1.0000					
FS	0.1169**	-0.0482	-0.0108	1.0000				
TS_NED	0.0206	0.2339***	0.0502	-0.0561	1.0000			
TS_IOWN	0.0248	0.2110***	0.0085	-0.0968**	0.8300***	1.0000		
NPSTDUMTS_NED	-0.0100	0.0434	-0.0687	0.0132	0.1861***	0.1485***	1.0000	
NPSTDUMTS_IOWN	-0.0058	0.0109	-0.0153	-0.0207	0.1547***	0.2080***	0.7666***	1.0000

***, ** and * indicate significant level at 1%, 2.5% and 5% respectively.

Table 7.15

Pearson Correlation Matrix: Components of Tax Saving – Persistent Profit-Making Companies

n=405	MVE	BVE	PBT	TLOSS	TPD	TTD	TFTR	TUNC	NED	IOWN	CC
MVE	1.0000										
BVE	0.3917***	1.0000									
PBT	0.7985***	0.3817***	1.0000								
TLOSS	-0.0115	-0.0410	-0.0046	1.0000							
TPD	-0.0545	-0.0176	0.0765	-0.1418***	1.0000						
TTD	0.0875*	0.0322	-0.0042	-0.3757***	-0.0176	1.0000					
TFTR	-0.0518	-0.0518	-0.0543	-0.0869*	-0.0640	-0.1674***	1.0000				
TUNC	-0.0101	0.0128	-0.0050	-0.0008	0.1083	-0.1243**	-0.0746	1.0000			
NED	0.0178	-0.0577	-0.0476	0.0221	0.0430	0.0133	0.0190	0.0546	1.0000		
IOWN	-0.0299	0.0330	-0.0754	-0.1311***	-0.0626	0.0676	-0.0188	-0.1649***	0.1934***	1.0000	
CC	0.1300***	0.5581***	0.0694	0.0148	0.0108	-0.0266	-0.0681	0.0151	0.0085	0.0131	1.0000
EM	-0.1189**	0.1238**	0.1395***	-0.0669	0.1557***	-0.0214	-0.0003	0.0318	-0.1221**	-0.1096**	0.0884*
CAPINT	-0.1525***	-0.1512***	-0.1380***	-0.0118	0.0885	-0.0666	0.1144	-0.0072	-0.0008	0.0075	-0.0635
LEV	-0.0131	-0.1006	-0.0544	0.0752	0.0609	0.0437	0.0579	0.0832*	0.2602***	-0.0961*	-0.0115
DIV	0.0327	-0.0599	0.0648	0.0616	0.1248	-0.0255	0.0111	-0.0336	0.0173	-0.0461	-0.0449
FS	0.1145**	0.0490	-0.0100	-0.0373	0.0659	0.0598	-0.1076**	0.0783	0.1610***	0.0697	0.0743
TLOSS_NED	-0.0169	-0.0284	-0.0117	**0.9886*****	-0.1516***	-0.3796***	-0.0558	0.0009	0.0268	-0.1292***	0.0184
TLOSS_IOWN	-0.0438	-0.0801	0.0092	0.8947***	-0.1568***	-0.4631***	-0.0192	0.0234	0.0026	-0.1268**	0.0074
TPD_NED	-0.0480	-0.0202	0.0876*	-0.1579***	**0.9862*****	-0.0073	-0.1646	0.1100	-0.0044	-0.0545	0.0187
TPD_IOWN	-0.0595	-0.0361	0.0420	-0.1691***	**0.9032*****	0.0028	-0.1866	0.1211***	0.0491***	-0.1511***	-0.0079
TTD_NED	0.0839*	0.0263	-0.0020	-0.3913***	-0.0036	**0.9822*****	-0.1262**	-0.1064**	0.0473	0.0639	-0.0335
TTD_IOWN	0.0939*	0.1142**	0.0202	-0.4786***	-0.0001	**0.9164*****	-0.1060**	-0.1412***	0.0087***	0.1882***	0.0053
TFTR_NED	-0.0333	-0.0459	-0.0672	-0.0544	-0.1540***	-0.1198**	**0.9762*****	-0.0889*	0.0464	-0.0203	-0.0671
TFTR_IOWN	-0.0817	-0.0206	-0.1170**	-0.0183	-0.1665***	-0.1074**	**0.9260*****	-0.0805	0.0085	-0.0071	-0.0195
TUNC_NED	-0.0122	0.0039	-0.0089	0.0015	0.1079**	-0.1035**	-0.0883*	**0.9869**	0.0724	-0.1447***	0.0150
TUNC_IOWN	-0.0711	0.0031	-0.0295	0.0191	0.1122**	-0.1495***	-0.1048**	0.8601***	0.0637	-0.0342	0.8601***

***, ** and * indicate significant level at 1%, 2.5% and 5% respectively.

Table 7.15…continue
Pearson Correlation Matrix: Components of Tax Saving – Persistent Profit-Making Companies

n=405	EM	CAPINT	LEV	DIV	FS	TLOSS_NED	TLOSS_IOWN	TPD_NED	TPD_IOWN	TTD_NED
EM	1.0000									
CAPINT	-0.1507***	1.0000								
LEV	-0.2211***	0.0980**	1.0000							
DIV	0.0050	0.2075***	0.1301***	1.0000						
FS	-0.0088	0.1113**	-0.0441	0.0055	1.0000					
TLOSS_NED	-0.0649	-0.0075	0.0748	0.0691	-0.0344	1.0000				
TLOSS_IOWN	-0.0562	0.0228	0.0609	0.0672	-0.0525	0.8893***	1.0000			
TPD_NED	0.1532***	0.0806	0.0415	0.1300***	0.0537	-0.1693***	-0.1701***	1.0000		
TPD_IOWN	0.1366***	0.0919*	0.0779	0.1470***	0.0794	-0.1783***	-0.2164***	0.8748***	1.0000	
TTD_NED	-0.0269	-0.0698	0.0639	-0.0341	0.0683	-0.4028***	-0.4844***	0.0024	0.0189	1.0000
TTD_IOWN	0.0116	-0.0883*	0.0135	-0.0798	0.0438	-0.4838***	-0.6023***	0.0107	-0.0011	**0.9143*** **
TFTR_NED	0.0026	0.1127	0.0617	-0.0023	-0.1043**	-0.0506	-0.0104	-0.1600	-0.1754***	-0.1412***
TFTR_IOWN	-0.0226	0.1048**	0.0595	-0.0108	-0.1366***	-0.0097	0.0123	-0.1672***	-0.2109***	-0.1287***
TUNC_NED	0.0407	-0.0088	0.0740	-0.0349	0.0835*	0.0043	0.0242	0.1133**	0.1164**	-0.0900*
TUNC_IOWN	0.0854*	0.0066	0.0614	0.0088	0.0603	0.0207	0.0339	0.1120**	0.1452***	-0.1360***

***, ** and * indicate significant level at 1%, 2.5% and 5% respectively.

Table 7.15…continue
Pearson Correlation Matrix: Components of Tax Saving – Persistent Profit-Making Companies

n=405	TTD_IOWN	TFTR_NED	TFTR_IOWN	TUNC_NED	TUNC_IOWN
TTD_IOWN	1.0000				
TFTR_NED	-0.1199**	1.0000			
TFTR_IOWN	-0.1189**	**0.9274*** **	1.0000		
TUNC_NED	-0.1252**	-0.1023**	-0.0874*	1.0000	
TUNC_IOWN	-0.1598***	-0.1132**	-0.1185**	0.8454***	1.0000

***, ** and * indicate significant level at 1%, 2.5% and 5% respectively.

Table 7.16

Variance Inflation Factors (VIF)

	(I) Firm Value and Tax Planning: Persistent Profit-Making Companies (Column I of Table 7.8)	**(II) Firm Value and Tax Planning: Persistent and Non-Persistent Profit-Making Companies (Column II of Table 7.8)**	**(III) Firm Value and Components of Tax Saving: Persistent Profit-Making Companies (Column III of Table 7.8)**	**(IV) Firm Value, Tax Planning and Corporate Governance: Persistent Profit-Making Companies (Column I of Table 7.10)**	**(V) Firm Value, Tax Planning and Corporate Governance: Persistent Profit-Making Companies (Column II of Table 7.10)**	**(VI) Firm Value, Tax Planning and Corporate Governance: Persistent and Non-Persistent Profit-Making Companies (Column III of Table 7.10)**	**(VII) Firm Value, Tax Planning and Corporate Governance: Persistent and Non-Persistent Profit-Making Companies (Column IV of Table 7.10)**	**(VIII) Firm Value, Components of Tax Saving and Corporate Governance: Persistent Profit-Making Companies (Column I of Table 7.11)**	**(IX) Firm Value, Components of Tax Saving and Corporate Governance: Persistent Profit-Making Companies (Column II of Table 7.11)**
BVE	2.92	2.75	1.84	2.93	2.93	2.76	2.76	1.85	2.00
PBT	1.43	1.39	1.43	1.43	1.47	1.39	1.43	1.44	1.51
TS	1.22	1.23	-	1.24	**31.08**	1.25	**31.78**	-	-
NPSTDUMTS	-	1.13	-	-	-	1.15	**20.09**	-	-
TLOSS	-	-	1.31	-	-	-	-	1.34	**55.11**
TPD	-	-	1.19	-	-	-	-	1.19	**65.24**
TTD	-	-	1.28	-	-	-	-	1.28	**38.82**
TFTR	-	-	1.16	-	-	-	-	1.16	**26.63**
TUNC	-	-	1.10	-	-	-	-	1.14	**50.98**
NED	-	-	-	1.24	1.35	1.23	1.30	1.34	1.52
IOWN	-	-	-	1.08	1.21	1.09	1.21	1.20	1.56
CC	2.64	2.51	1.55	2.66	2.66	2.51	2.52	1.55	1.60
EM	1.18	1.20	1.23	1.19	1.19	1.21	1.22	1.25	1.33
CAPINT	1.45	1.46	1.62	1.46	1.46	1.46	1.46	1.62	1.64
LEV	1.36	1.36	1.39	1.42	1.43	1.42	1.43	1.45	1.47
DIV	1.17	1.20	1.20	1.17	1.17	1.20	1.21	1.20	1.24

Table 7.16...continue

Variance Inflation Factors (VIF)

	(I) Firm Value and Tax Planning: Persistent Profit-Making Companies (Column I of Table 7.8)	**(II) Firm Value and Tax Planning: Persistent and Non-Persistent Profit-Making Companies (Column II of Table 7.8)**	**(III) Firm Value and Components of Tax Saving: Persistent Profit-Making Companies (Column III of Table 7.8)**	**(IV) Firm Value, Tax Planning and Corporate Governance: Persistent Profit-Making Companies (Column I of Table 7.10)**	**(V) Firm Value, Tax Planning and Corporate Governance: Persistent Profit-Making Companies (Column II of Table 7.10)**	**(VI) Firm Value, Tax Planning and Corporate Governance: Persistent and Non-Persistent Profit-Making Companies (Column III of Table 7.10)**	**(VII) Firm Value, Tax Planning and Corporate Governance: Persistent and Non-Persistent Profit-Making Companies (Column IV of Table 7.10)**	**(VIII) Firm Value, Components of Tax Saving and Corporate Governance: Persistent Profit-Making Companies (Column I of Table 7.11)**	**(IX) Firm Value, Components of Tax Saving and Corporate Governance: Persistent Profit-Making Companies (Column II of Table 7.11)**
FS	1.21	1.23	1.21	1.27	1.29	1.29	1.31	1.27	1.32
TS_NED	-	-	-	-	**27.26**	-	**27.02**	-	-
TS_IOWN	-	-	-	-	4.38	-	4.72	-	-
NPSTDUMTS_NED	-	-	-	-	-	-	**21.53**	-	-
NPSTDUMTS_IOWN	-	-	-	-	-	-	2.65	-	-
TLOSS_NED	-	-	-	-	-	-	-	-	**52.61**
TLOSS_IOWN	-	-	-	-	-	-	-	-	7.88
TPD_NED	-	-	-	-	-	-	-	-	**50.93**
TPD_IOWN	-	-	-	-	-	-	-	-	7.68
TTD_NED	-	-	-	-	-	-	-	-	**37.23**
TTD_IOWN	-	-	-	-	-	-	-	-	**11.73**
TFTR_NED	-	-	-	-	-	-	-	-	**27.99**
TFTR_IOWN	-	-	-	-	-	-	-	-	9.06
TUNC_NED	-	-	-	-	-	-	-	-	**45.27**
TUNC_IOWN	-	-	-	-	-	-	-	-	4.83
n	444	472	405	444	444	472	472	405	405

Table 7.17

Condition Indices and Variance–Decomposition Proportions

	(I) Firm Value and Tax Planning: Persistent Profit-Making Companies (Column I of Table 7.8)	**(II) Firm Value and Tax Planning: Persistent and Non-Persistent Profit-Making Companies (Column II of Table 7.8)**	**(III) Firm Value, and Components of Tax Saving: Persistent Profit-Making Companies (Column III of Table 7.8)**	**(IV) Firm Value, Tax Planning and Corporate Governance: Persistent Profit-Making Companies (Column I of Table 7.10)**	**(V) Firm Value, Tax Planning and Corporate Governance: Persistent Profit-Making Companies (Column II of Table 7.10)**	**(VI) Firm Value, Tax Planning and Corporate Governance: Persistent and Non-Persistent Profit-Making Companies (Column III of Table 7.10)**	**(VII) Firm Value, Tax Planning and Corporate Governance: Persistent and Non-Persistent Profit-Making Companies (Column IV of Table 7.10)**	**(VIII) Firm Value, Components of Tax Saving and Corporate Governance: Persistent Profit-Making Companies (Column I of Table 7.11)**	**(IX) Firm Value, Components of Tax Saving and Corporate Governance: Persistent Profit-Making Companies (Column II of Table 7.11)**
Highest condition index	20.42	20.10	23.62	26.56	25.78	28.58	26.91	28.84	35.66
Number of condition index that is equal to or higher than 30	-	-	-	-	-	-	-	-	2
Variables in which the condition index is equal to or higher than 30 and the variance-decomposition proportion is equal to or higher than 0.5	-	-	-	-	-	-	-	-	TLOSS 0.54* TPD 0.75* TLOSS_NED 0.55* TPD_NED 0.74*

* indicates variance-decomposition proportion.

7.5 Further Tests

Further analysis to assess the robustness of the results is also conducted. The analysis is related to market value measurement date, choice of deflator, firm fixed-effect, non-linearity of tax saving and autocorrelation. In order to assess the sensitivity of the results to the definition of the dependent variable, an alternative measure of firm value, Tobin's Q, utilised by previous researchers including Desai and Dharmapala (2009), is used. To test for possibility of simultaneity, the estimation models are further tested for endogeneity. In addition, the results on the components of tax saving are also tested to assess the sensitivity upon reclassification of unclassified reconciliation items. To test the potential effects of tax planning-related factors in the tax planning measure, further tests based on exclusions of the tax planning-related factors are also conducted. Furthermore, to provide a better picture of the association between firm value and tax saving over time, annual regressions are carried out. Except the model that tests the relationship between firm value, components of tax saving and corporate governance of persistent profit-making companies with interaction variables, these further tests are analysed only on the main models (i.e. the models of the hypothesis testing) since the models exhibit reduced possibility of multicollinearity. As there is a significant multicollinearity within the interaction variables (TPD_NED and TLOSS_NED) further tests are also conducted only on this model to control for any possibility of multicollinearity issues in the robustness analyses. The tabulated results are as in Appendix B.

7.5.1 Market Value Measurement Date

In addition to the above market value measure, previous value relevance literature also uses market value after six months of the year-end (Rees, 1997; Stark and Thomas, 1998; O'Hanlon and Pope, 1999; Hughes, 2008). This alternative market value measurement date is basically intended to reflect more available information to the shareholders across time. Therefore, to test any effect of this measure on the initial results, the models are re-estimated using market value of equity after six months of the year-end as the dependent variable.

The results are reported in Table B.18 and Table B.19 in Appendix B. The results can be concluded as consistent and robust, as the coefficient estimate of tax saving variable (TS) is also found significant and negatively related with the firm value. However, the interaction variable between non-persistent dummy and tax saving (NPSTDUMTS) is no longer significantly related with firm value. This could imply that the increase in available information on companies for shareholders' scrutiny increases shareholders' confidence level on the tax planning activity of non-persistent companies. In terms of components of tax saving, the results reported are identical to the initial results. Similarly, in terms of components of tax saving and corporate governance with interaction variables, the results are identical to the initial results. Therefore, the results on the significant relationship between firm value and permanent differences can be inferred as consistent and robust upon use of the alternative firm value measurement date.

7.5.2 Choice of Deflator

In examining whether the results are sensitive to the choice of deflators, number of shares, opening market value of equity and sales are used as alternative deflators in the further tests. The findings of these deflators based on persistent profit-making companies are presented in Table B.20 and Table B.21 in Appendix B.

Overall, it can be concluded that the results of firm value and tax planning relationship are identical upon the use of opening book value of equity, opening market value and sales as deflators but not in the case of number of shares, of which the coefficient estimate of tax saving is no longer significant. These inconsistent results support Akbar and Stark's (2003) argument on the implications of different deflators for contradictory results of the previous literature. These results may also be related to the different nature of relationship between the deflators and the "economic phenomena" in which number of shares, as compared to the other deflators, are claimed as having a low potential to be linked to the economic interest (Barth and Clinch, 2009). Similar results are also observed in testing the sensitivity of the choice of deflator on the

relationship between firm value, tax planning and corporate governance of persistent profit-making companies.

Similar results are also found in the case of the relationship based on combined persistent and non-persistent profit-making companies. The significance of the tax saving variable (TS) is identical depending upon the choice of the deflators except number of shares. In the case of non-persistent profit-making companies, the initial relationship between firm value and the interactive variable between tax saving and non-persistent profit-making companies dummy (NPSTDUMTS) is similar except for sales, where the coefficient estimate of the interaction variable (NPSTDUMTS) is no longer significant. Similar results occur in testing the relationship between firm value, tax planning and corporate governance.

In terms of components of tax saving for persistent profit-making companies, the results reported in Table B.24 and Table B.25 in Appendix B can be concluded as sensitive to the choice of deflator. Compared to the initial results of both tests that utilised opening book value of equity as the deflator, the results that use the number of shares as the deflator show permanent differences as no longer significant and foreign tax rates differentials as positively related with firm value. When the opening market value is used as the deflator, none of the components are reported as significantly related with firm value. The initial results are also found to be sensitive when sales are used as the. These results indicate a significant positive relationship between firm value and temporary differences, both with and without corporate governance variables.

For components of tax saving of persistent profit-making companies and corporate governance with interaction variables, the results reported in Table B.26 in Appendix B can be concluded as sensitive to the choice of deflator. Compared to the initial results of that utilised opening book value of equity as the deflator, the initial result on TLOSS is found to be consistent when number of shares is used as the deflator. Result on TTD, however, is found to be significant and positively related with firm value. The results of the model that uses sales as the deflator show that TLOSS, TLOSS_IOWN and TUNC_IOWN as no longer

significant and TLOSS_NED as negatively related with firm value. When the opening market value is used as the deflator, the relationships between firm value and TLOSS and TLOSS_IOWN are consistent with the initial results, i.e. significant and positively correlated for TLOSS, and significant and negatively correlated for TLOSS_IOWN. However, TFTR_IOWN and TUNC_IOWN are reported as no longer significantly related with firm value. Overall, the analyses indicate that the results are sensitive upon the choice of deflator. As discussed above, these findings support Akbar and Stark's (2003) argument on sensitivity of research findings due to different deflator choice. Due to inconclusive evidence of the appropriate choice of deflator (Liu and Stark, 2009), as discussed in Chapter 6, to be consistent with most relevant previous U.K. literature, the main results are discussed based on opening book value of equity as the deflator.

7.5.3 Firm Fixed-Effect

The initial results are reported based on random-effect estimation. This estimation is appropriate as this study intends to generalise the findings from the sample to its population (Kennedy, 2003). However, to assess the sensitivity of the results upon fixed-effect estimations, the main models are further tested for firm fixed-effect to control for heterogeneity in firm characteristics. The findings of the fixed-effect estimations provide explanation about cross sectional effects of the initial reported results. The findings of the fixed-effects estimated models are reported in Table B.27 and Table B.28 in Appendix B.

The results of the relationships between firm value and tax planning, and between firm value and components of tax saving, both with and without corporate governance, indicate that the initial multivariate results are robust and qualitatively not different from the random-effects estimated models. However, the significant negative coefficient estimate of tax saving of non-persistent profit-making companies (NPSTDUMTS) is no longer applicable using the fixed-effects option. Similarly, in terms of components of tax saving with interaction variables, TLOSS, TLOSS_IOWN and TUNC_IOWN are no longer related with

firm value. Therefore, it can be concluded that the initial results of the interactive variables are sensitive upon the specification of the estimation model.

7.5.4 Non-Linearity of Tax Saving

As managers' "aggressiveness" in tax planning is perceived as reflecting "high" moral hazard risk (Hanlon and Slemrod, 2009), negative shareholders' tax planning valuation may increase non-linearly at "higher levels" of tax planning. This relationship is likely to occur as "high" extent of tax saving reflects managers' "aggressiveness" in tax planning (Hanlon and Slemrod, 2009), which may be subsequently captured by shareholders in the tax planning valuation. Considering this possibility, the non-linear relationship between firm value and tax planning is tested with the inclusion of quadratic tax saving variable that is defined as tax saving-squared. Due to the limited amount of literature that investigates this non-linear relationship, the sign of the relationship is difficult to predict. The initial reported results remain the same, in which the hierarchical regression results report insignificant quadratic tax saving variable with insignificant incremental F-tests. Specifically, based on persistent profit-making companies, the change in R-squared is reported as at 0.0006 with the p value of 0.5892. Similar results are also reported for combined persistent and non-persistent profit-making companies where the change in R-squared is at 0.0033 with the p value of 0.1772.

7.5.5 Autocorrelation

The company-year observations employed in this study potentially exhibit autocorrelation as the panel dataset involves repeated observations on the same cross-section (Wooldridge, 2002). Thus, an autocorrelation test (Wooldridge, 2002) is conducted to determine any potential first-order time-series autocorrelation problem. The results indicate no significant autocorrelation exists in any of the models. Specifically, based on persistent profit-making companies, the F-statistics of the tests are 0.1390 (p value of 0.7102) and 0.0090 (p value of 0.9241) for the estimation models that test the relationships between firm value

and tax planning, and between firm value, tax planning and corporate governance respectively. Similar results are also reported for combined persistent and non-persistent profit-making companies where the reported F-statistic is 0.1410 with p value of 0.7073 for the model that tests the relationship between firm value and tax planning and 0.0017 with p value of 0.8964 for the model that tests the moderating effect of corporate governance. In terms of components of tax saving, the F-statistic is also not significant for both models, with and without corporate governance variables, i.e. F-statistics of 0.4640 (p value of 0.4968) and 0.2320 (p value of 0.6307) respectively. Similarly, for the components of tax saving and corporate governance with interaction variables, the F-statistic is also not significant, i.e. F-statistics of 0.1670 (p value of 0.6837).

7.5.6 Alternative Market Value Measure

An alternative measure of market value has been used in some of the previous literature in testing the relationship between firm value and tax planning, for example, Desai and Dharmapala (2009). To test the relationship between Tobin's Q and tax planning, following Desai and Dharmapala (2009), Tobin's Q is computed by deflating the amount of book value of assets plus market value of common stock minus book value of common stock minus deferred tax expense with book value of assets. The exclusion of deferred tax in Tobin's Q measure is to control the temporary effects of tax planning (Desai and Dharmapala, 2009). The estimation models are then adjusted to exclude book value of equity as it has been included in the Tobin's Q. Consequently, to be consistent with the denominator in computing Tobin's Q, the continuous independent variables (PBT, TS, TLOSS, TPD, TTD, TFTR, TUNC, CC and EM) are also deflated by book value of assets. The results are reported in Table B.29 and Table B.30 in Appendix B.

The results indicate qualitative identical coefficient estimates of tax saving (TS) with the initial results. These results are in contrast to Desai and Dharmapala's (2009) findings, which found an insignificant relationship between firm value and tax planning using the U.S. data. In the case of non-persistent profit-making

companies, however, the interaction variable between non-persistent dummy and tax saving (NPSTDUMTS) is no longer significantly related with firm value.

In terms of components of tax saving of persistent profit-making companies, the initial results are sensitive to the changing of the dependent variable to Tobin's Q. Contrary to the initial results, no significant relationship exists between firm value and any of the components of tax saving. Similar results are also applicable for components of tax saving and corporate governance with interaction variables, in which results show that the relationships between firm value and TLOSS, TLOSS_IOWN and TUNC_IOWN in the initial results are no longer significant. Therefore, it can be concluded that the relationship between firm value and components of tax saving is sensitive upon the changing of market value measure to Tobin's Q. In addition, the R-squared of all models are relatively lower than the models that measure firm value using market value of equity. This could be due to difficulties in measuring Tobin's Q to reflect firm value, as discussed in Chapter 4 (Section 4.1.3).

7.5.7 Potential Effects of Tax Planning-Related Factors

In estimating the relationship between firm value and tax planning, capital intensity (CAPINT), leverage (LEV) and extent of foreign sales (FS) are included in the estimation models to control for potential effects of tax-related factors. Each of these relates to areas where tax planning could be present. As a consequence, the tax planning variable may in effect be capturing tax planning in other non-defined areas which, because of their relative lack of transparency compared to capital structure for example, may be valued negatively by shareholders. To investigate whether the initial results of the tax planning-related variables, TS, NPSTDUMTS, TLOSS, TPD, TTD and TFTR are capturing the potential effects of tax planning-related factors, the models are re-estimated with the exclusion of LEV, CAPINT and FS. The results are reported in Table B.31 to Table 7.34 in Appendix B.

All results of all models except the model that tests the relationship between market value, components of tax saving and corporate governance are consistent

with the initial results suggesting that the omitted variables (LEV, CAPINT and FS) have no effect on tax saving (TS) and tax saving by non-persistent profit-making companies (NPSTDUMTS). The results also suggest that the omitted variables (LEV, CAPINT and FS) have an effect on TPD in which shareholders assume that TPD is explained by the tax planning-related factors, i.e. LEV, CAPINT and FS.

7.5.8 Endogeneity

Endogeneity occurs when a variable in the estimation model is explained by other variable(s) that is(are) not considered in the model. It is an important issue in econometrics as it could result in violation of zero-conditional-mean assumption of linear regression model (Baum, 2006). To address the concern of the potential of endogeneity of tax planning variable, a lag tax saving variable is considered as an instrumental variable (Larcker and Rusticus, 2007; Loretz and Moore, 2009). The lag variable satisfies the assumption under a simultaneous system in which it is an exogenous variable that explains tax planning but not firm value. This is based on the assumption that the previous level of tax planning may influence the extent of current tax planning activities but not the current market value of the firm. This is due to the short-run nature of a year tax saving and the implication of specific economic events in each year on that respective year's tax saving (Dyreng *et al.*, 2008; Minnick and Noga, 2009).

To test this assumption, the initial model is re-estimated using instrumental variable estimation (i.e. 2SLS of which lag tax planning is utilised as the instrument variable of the tax planning variable (TS)). The results of the 2SLS are as reported in Table B.35 in Appendix B. Based on Durbin-Wu-Hausman tests for endogeneity (Baum, 2006), the results reject the endogeneity of tax planning variable (chi-squared value of 14.92 with p value of 0.5304). Therefore, it can be concluded that the current level of tax planning is exogenous of its lag.

7.5.9 Reclassification of Unclassified Reconciliation Items

In testing the sensitivity of the relationship between firm value and the components of tax saving to the classification of unclassified items (TUNC), two separate tests are conducted. This is based on the possibility that the shareholders may perceive the TUNC as either permanent differences (TPD) or temporary differences (TTD). The first test is related to reclassification of TUNC as TPD and the second is related to the reclassification of TUNC as TTD. The results are reported in Table B.36 and Table B.37 in Appendix B. Overall, the results are consistent with initial regression results that indicate a significant relationship between firm value and TPD. This suggests that the coefficient estimates of the components are robust upon the reclassification of the unclassified items, i.e. either unclassified items (TUNC) are treated as permanent differences (TPD) or temporary differences (TTD), or are ignored for valuation purposes. However, in terms of components of tax saving and corporate governance with interaction variables, TTDUNC_IOWN is found to be not consistent with the initial results of TTD_IOWN, i.e. when TUNC is reclassified as TTD, in which the relationship appears to be negatively significant compared to the initial result that indicates insignificant relationship of TTD_IOWN. This suggests different shareholders' valuation on the structure of corporate governance, particularly IOWN, when the TUNC is categorised as TTD.

7.5.10 Annual Regressions and Year Dummies

To investigate the stability of the reported results over time, the models are estimated over three annual regressions, 2005, 2006 and 2007. This process is appropriate compared to other alternatives, for example averaging the variables (Chen *et al.*, 2010), as this test is intended to provide further understanding on shareholders' tax planning valuation instead of mitigating statistical concerns of time-series effect. The results are reported in Table B.38 to Table B.44 in Appendix B.

The initial panel results based on persistent profit-making companies for both with and without corporate governance hold for both 2005 and 2006 but, in 2007, no significant relationship is found. In terms of combined persistent and non-persistent profit-making companies, for the relationship between firm value and tax planning, the negative coefficient estimate of the interactive variable (NPSTDUMTS) of the panel regression remains throughout the years. However, the tax saving variable (TS) is only significant in 2006 and this is also applicable for the estimation model that tests the effect of corporate governance. But the interactive variable between non-persistent profit-companies and tax saving (NPSTDUMTS) is only significant in 2006.

In investigating the annual relationship between firm value and the components of tax saving of persistent profit-making companies, the initial panel regressions results on the negative relationship between firm value and permanent differences (TPD) is applicable in 2005 and 2006. In 2007, the relationship becomes positive. In addition, the results indicate a consistent positive relationship between firm value and temporary differences (TTD) throughout the three years. The coefficient estimates of foreign tax rates differentials (TFTR) are also found to be positive and significant but only in 2005 and 2007. In considering the moderating influence of corporate governance, similarly, the results show a negative relationship between firm value and permanent differences (TPD) in 2005 and 2006, and a positive relationship in 2007. The results also indicate positive relationships between firm value and temporary differences (TTD) in 2006 and 2007. The coefficient estimates of foreign tax rates differentials (TFTR) are found to be identical with the previous annual results.

In terms of annual relationship between firm value, components of tax saving and corporate governance with interaction variables (persistent profit-making companies), the initial panel regressions results on the positive relationship between firm value and TLOSS is applicable throughout the period. In addition, the results indicate a consistent negative relationship between firm value and TLOSS_IOWN in 2006 and 2007. In 2005, the relationship between firm value and TLOSS_IOWN is not significant. The variations of the relationship are also

observed between firm value and TFTR_IOWN and TUNC_IOWN in which the initial negative relationships are only applicable in 2005.

These imply that the results of the research relating to firm value, tax planning and corporate governance should be interpreted with consideration of the time variation effect. This suggests that the market valuation on tax planning varies across the years, perhaps because of small sample sizes for each of the years (O'Hanlon and Taylor, 2007). An investigation by year of descriptive statistics for the tax planning variables does not reveal any differences between 2007 and the earlier years. The difference in results could be due to variations of economic conditions during the sample period. During the economic recession starting in 2007, the focus of attention of shareholders' tax planning valuation may be diverted from agency risk of tax planning to maintaining or increasing after-tax return. Therefore, during the economic downturn, shareholders may increasingly value the permanent differences as it shows the managers' ability to minimise the tax expense effectively and in turn increases the permanent tax saving particularly during the "tough" economic times.

To further investigate this issue, following O'Hanlon and Taylor (2007), the initial models are re-estimated with the inclusion of year (intercept) dummies to allow variations in the intercept across the three years (2005 – 2007).[71] This is to capture yearly fluctuations of shareholders' tax planning valuation. The results are reported in Table B.45 and Table B.46 in Appendix B. Based on the results, it can be concluded that the results with inclusions of year dummies are identical to the initial results where the results remain the same for tax saving (TS), interaction variable between tax planning and non-persistent profit-making dummy (NPSTDUMTS), permanent differences (TPD), temporary differences (TTD), foreign tax rates differential (TFTR) and tax losses (TLOSS). This suggests that the initial results on the relationship between firm value and tax planning has captured the variations of shareholders' tax planning valuation across the years. However, the results on the relationship between firm value, tax

[71] Three year dummy variables were generated. Each of the variables respectively represents 2005, 2006 and 2007 and the variables are coded as "1" if the year is equal to the respective year (2005, 2006 and 2007). During the analyses, the dummy variable for 2007 is omitted by the system due to collinearity.

planning and corporate governance with interaction variables are inconsistent with the initial results in which TLOSS and TFTR_IOWN are no longer significantly related with firm value. This confirms the variations of implication of corporate governance structure in shareholders' tax planning valuation across years.

7.6 Conclusions

This chapter presents and discusses the results derived from the analyses. This chapter begins explanations on outliers and influential observations. In order to provide an understanding about the characteristics of the sample, this chapter proceeds with an explanation of the descriptive statistics. Subsequently, this chapter continues with two sub-sections of multivariate results that respectively present the results from the analysis of the relationship between firm value and tax planning, and between firm value, tax planning and corporate governance. The following section of this chapter discusses the multicollinearity and heteroscedasticity tests. In considering the sensitivity of the results towards alternative measures of dependent variable, choice of deflator, fixed-effect specification, non-linearity of tax saving, autocorrelation, potential effects of tax planning-related factors, endogeneity and reclassification of unclassified reconciliation items, the next section discussed the robustness of the initial results based on the results derived from the further tests. In addition, the section also provides the results from annual regressions to discuss the variation in the initial reported results over time.

In summary, the findings of this study provide insights about the significance of tax planning activities from shareholders' point of view. Specifically, shareholders are found to negatively value tax planning activities both for persistent and non-persistent profit-making companies. These indicate that tax planning is not perceived as a source of shareholders' wealth creation. These results could be due to the perception that tax planning is an activity that entails risks (Slemrod, 2005; Desai and Dharmapala, 2009; Chen *et al.*, 2010). This

negative relationship (persistent profit-making companies) is further found to be significantly related to the permanent differences component of tax saving (TPD). In terms of the nature of shareholders' valuation of different components of tax saving of persistent profit-making companies, the hypothesis testing indicates that the valuation effect between permanent differences (TPD) and the other three components (temporary differences (TTD), foreign tax rates differentials (TFTR) and NOLs (TLOSS)) are different from each other suggesting different perceived benefits and risks between TPD and the other components. The three components (TTD, TFTR and TLOSS), however, are not significantly different (at five per cent level) from one another, indicating no differing shareholders' valuation effect between these components.

Investigating the implication of corporate governance on the above firm value-tax planning relationships yields higher negative tax planning coefficient estimates than the initial results (without corporate governance). Although this shows that, with corporate governance, shareholders appear to value the tax planning even more negatively, the coefficient estimates of the tax planning-related variables (TS, NPSTDUMTS, TPD, TTD, TFTR, TLOSS) are not significantly different from the respective coefficients in the initial results (without corporate governance). These results, hence, fail to support Henderson Global Investors' (2005) and Desai and Dharmapala's (2009) suggestion on the importance of corporate governance effectiveness to shareholders, particularly in addressing their concern about managerial opportunism in tax planning. The negative coefficient estimates support Hanlon and Slemrod's (2009) argument on shareholders' doubts about managers' role in increasing the shareholders' wealth.

In testing the sensitivity of the results towards the alternative measures of firm value, the initial results of the main models of the relationship between firm value and both tax saving and permanent differences variables are robust when the firm value is measured as at six months after the year-end. However, the relationship between firm value and tax planning by non-persistent profit-making companies (NPSTDUMTS) is found to be sensitive towards the changing of the measurement. Specifically, NPSTDUMTS is no longer significant when firm value is measured as at six months after the year-end. This sensitivity is also

observed when the firm value is measured using Tobin's Q. In terms of different choices of deflators, the results based on persistent profit-making companies are qualitatively identical with the initial multivariate results when the continuous variables are scaled with opening market value and sales. However, the significant coefficient estimate of tax planning is found to be no longer available when the variables are scaled with number of shares. In the case of tax planning by non-persistent profit-making companies, the initial result of the interactive variable is found to be identical with the results when the variables are deflated with number of shares and opening market value but not sales. In assessing the sensitivity of the results for components of tax saving of persistent profit-making companies, the results can be concluded as being sensitive to the choice of deflators.

In addition to the above tests, the results are also tested for robustness of the model specification using fixed-effect estimators. The results from the fixed-effect estimation can be concluded as qualitatively similar with the random-effect estimation except for the result on tax planning by non-persistent profit-making companies, which is found to be no longer significant. In addressing the concern about the possibility of non-linearity of tax saving, autocorrelation and endogeneity issues, F-tests, Wooldridge test and 2SLS are respectively conducted. The findings reveal that there is a low possibility of these issues to occur as the statistical tests values are not significant at normal level in all cases.

To address the potential for differing valuation effects on the categorisation of the unclassified tax reconciliation items, further tests are conducted by reclassifying the unclassified items (TUNC), firstly as permanent differences and secondly as temporary differences. Both tests indicate that the initial results of the main models of the relationship between firm value and components of tax saving of persistent profit-making companies are robust towards the reclassification of the unclassified items. Considering the variations of the tested relationships over time, annual regressions are conducted. The results show that there is a time variation effect on the relationships, suggesting that the panel regressions results vary over time. Although the results of the various models are not entirely consistent as a whole, the results in general can be concluded as

providing strong support towards the hypotheses, as they support hypotheses H_{1a}, H_{1b} and H_{2a}.

Chapter 8

Summary, Contributions and Recommendations

This study has been carried out to investigate the relationship between firm value and tax planning whilst simultaneously considering the moderating influence of corporate governance. It provides empirical evidence that strongly supports the hypotheses related to shareholders' tax planning valuation. However, the evidence does not support the argument on the importance of corporate governance practice to that valuation. In summarising this study, this chapter focuses on discussions of the findings, contributions and limitations of this study, and recommendations for future research. The chapter begins with a brief overview of this study and is followed by a summary of the hypotheses. The chapter consequently proceeds with the results of the hypotheses testing. In highlighting the contributions of this study, the subsequent section focuses on three aspects of the contributions: firstly, methodological, secondly, theoretical and finally, practical. To explain the limitations in generalising the findings, the next section discusses the limitations and in turn provides suggestions for future research.

8.1 Overview of the Study

The literature review in Chapter 2 highlights reasons and objectives for managers to conduct tax planning activities. Basically, the main aim of the tax planning activities is to increase the after-tax return if managers are acting in shareholders' interests. This is after considering the potential benefits and costs of the activities. However, the activities are not only influenced by the perceived benefits or risks, but also depend on several other factors including corporate governance. The literature review in Chapter 3 suggests the importance of corporate governance in limiting the owners-managers conflict. This conflict, in tax planning, is more about managerial opportunism in pursuing the tax planning activities. This moral hazard issue is caused by the information asymmetry of tax planning activities between the shareholders and the managers. Consequently, as highlighted by the literature review in Chapter 4, although tax planning can increase the shareholders' wealth, shareholders might negatively value the tax planning activities. Therefore, corporate governance practice is expected to increase shareholders' confidence in managers in conducting tax planning activities. However, as discussed in Chapter 4, some research has found that good corporate governance conduct is not necessarily viewed by shareholders as an effective mechanism for ensuring that the managers are carrying out the tax planning so as to increase shareholders' wealth (Hanlon and Slemrod, 2009). This is due to shareholders' doubts about managers' interests in conducting tax planning and is also related to *ex-post* prior year valuation effects. Hanlon and Slemrod (2009) discuss shareholders' doubts as related to the perception that a management which is aggressive with respect to taxation may also be aggressive with respect to its dealings with shareholders. In terms of *ex-post* rationalisation on the negative shareholders' tax planning valuation, Hanlon and Slemrod (2009) explain that the relationship shows the market's confirmation of suspicions of poor corporate governance that were previously not impounded in the shareholders' valuation.

This study, therefore, firstly attempts to investigate the relationship between market value and the extent of the tax planning activities. Based on the argument

that corporate governance could influence shareholders' perception on tax planning, this study further investigates whether corporate governance moderates the above-mentioned relationship. As there are arguments on companies' ability to pursue effective tax planning based on earning persistency, in which persistent profit-making companies are argued as having more incentives to conduct effective tax planning compared to their non-persistent counterparts (Mills *et al.*, 1998), the relationships are investigated based on two categories of companies: firstly, persistent-profit making companies and secondly, combined persistent and non-persistent profit-making companies. To investigate the nature of the relationships based on components of tax saving, this study tests the relationship between firm value and the individual components of tax saving, and subsequently examines whether the relationship is moderated by corporate governance. The summary of the findings will be discussed in turn.

8.2 Summary of the Hypotheses, Findings and Discussions

This section summarises the hypotheses that have been developed in Chapter 5 and the findings that have been derived from the methodology described in Chapter 6. In addition to answering the research questions addressed in Chapter 1, this section discusses the findings that have been detailed in Chapter 7.

8.2.1 Hypotheses

The hypotheses in Chapter 5 are developed based on two parts: firstly, on the relationship between firm value and tax planning and secondly, on the moderating implication of corporate governance on the firm value-tax planning relationship. As there is no previous U.K. literature on the directions of the relationships, the hypotheses are developed without any predicted direction. Although there is U.S. literature in the area of this study, the conflicting findings among those studies (Desai and Dharmapala, 2009; Hanlon and Slemrod, 2009;

Wilson, 2009) make any new findings difficult to predict. The hypothesised variables in each hypothesis testing are shown in Table 8.1.

Table 8.1

Interested Variables in Hypotheses

Objective	**Hypo-theses**	**Tested Variable (Abbrevia-tion)**	**Expec-ted Sign**	**Results of Hypotheses Testing**	**Results Table (Chapter 7)**
To investigate the relationship between firm value and tax planning of persistent profit-making companies	H_{1a}	Tax saving (TS)	+/-	Supported: Negative relationship between firm value and TS	Column I Table 7.5
To investigate the relationship between firm value and tax planning of non-persistent profit-making companies	H_{1b}	Interactive variable between non-persistent profit-making companies and tax saving (NPSTDUM TS)	+/-	Supported: Negative relationship between firm value and NPSTDUM TS	Column II Table 7.5
To investigate the relationship between firm value and permanent differences of persistent profit-making companies	H_{2a}	Permanent differences (TPD)	+/-	Supported: Negative relationship between firm value and TPD	Column III Table 7.5
To investigate the relationship between firm value and temporary differences of persistent profit-making	H_{2b}	Temporary differences (TTD)	+/-	Not Supported	Column III Table 7.5

companies					
To investigate the relationship between firm value and NOLs of persistent profit-making companies	H_{2c}	NOLs (TLOSS)	+/-	Not Supported	Column III Table 7.5
To investigate the relationship between firm value and foreign tax rates differentials of persistent profit-making companies	H_{2d}	Foreign tax rates differentials (TFTR)	+/-	Not Supported	Column III Table 7.5
To investigate the difference of detected relationship between firm value and each of the components of tax saving of persistent profit-making companies	H_{2e}	Chi-squared test on the coefficient estimates of permanent differences, temporary differences, NOLs and foreign tax rates differentials (Chi-squared)	$\neq 0$	Not Supported: The chi-squared is not significant	Table 7.6
To investigate the relationship between firm value and permanent differences of non-persistent profit-making companies	H_{2f}	Interactive variable between non-persistent profit-making companies and permanent differences (NPSTDUM_TPD)	+/-	Cannot be tested due to insufficient variation of observations	-
To investigate the relationship between firm value and temporary	H_{2g}	Interactive variable between non-persistent profit-making	+/-	Cannot be tested due to insufficient variation of observations	-

differences of non-persistent profit-making companies		companies and temporary differences (NPSTDUM_TTD)			
To investigate the relationship between firm value and NOLs of non-persistent profit-making companies	H_{2h}	Interactive variable between non-persistent profit-making companies and NOLs (NPSTDUM_TLOSS)	+/-	Cannot be tested due to insufficient variation of observations	-
To investigate the relationship between firm value and foreign tax rates differentials of non-persistent profit-making companies	H_{2i}	Interactive variable between non-persistent profit-making companies and foreign tax rates differentials (NPSTDUM_TFTR)	+/-	Cannot be tested due to insufficient variation of observations	-
To investigate the difference of detected relationship between firm value and each of the components of tax saving of non-persistent profit-making companies	H_{2j}	Chi-squared test on the coefficient estimates of permanent differences, temporary differences, NOLs and foreign tax rates differentials (Chi-squared)	$\neq 0$	Cannot be tested due to insufficient variation of observations	–
To investigate the moderating effect of corporate governance on	H_{3a}	Tax saving (TS)	+/-	Not supported	Column I Table 7.7

the relationship between firm value and tax planning of persistent profit-making companies					
To investigate the moderating effect of corporate governance on the relationship between firm value and tax planning of non-persistent profit-making companies	H_{3b}	Interactive variable between non-persistent profit-making companies and tax saving (NPSTDUMTS)	+/-	Not supported	Column III Table 7.7
To investigate the moderating effect of corporate governance on the relationship between firm value and permanent differences of persistent profit-making companies	H_{4a}	Permanent differences (TPD)	+/-	Not supported	Column I Table 7.8
To investigate the moderating effect of corporate governance on the relationship between firm value and temporary differences of persistent profit-making companies	H_{4b}	Temporary differences (TTD)	+/-	Not supported	Column I Table 7.8
To investigate	H_{4c}	NOLs	+/-	Not	Column I

the moderating effect of corporate governance on the relationship between firm value and NOLs of persistent profit-making companies		(TLOSS)		supported	Table 7.8
To investigate the moderating effect of corporate governance on the relationship between firm value and foreign tax rates differentials of persistent profit-making companies	H_{4d}	Foreign tax rates differentials (TFTR)	+/-	Not supported	Column I Table 7.8
To investigate the moderating effect of corporate governance on the relationship between firm value and permanent differences of non-persistent profit-making companies	H_{4e}	Interactive variable between non-persistent profit-making companies and permanent differences (NPSTDUM _TPD)	+/-	Cannot be tested due to insufficient variation of observations	-
To investigate the moderating effect of corporate governance on the relationship between firm value and temporary differences of non-persistent	H_{4f}	Interactive variable between non-persistent profit-making companies and temporary differences (NPSTDUM _	+/-	Cannot be tested due to insufficient variation of observations	-

profit-making companies		TTD)			
To investigate the moderating effect of corporate governance on the relationship between firm value and NOLs of non-persistent profit-making companies	H_{4g}	Interactive variable between non-persistent profit-making companies and NOLs (NPSTDUM_TLOSS)	+/-	Cannot be tested due to insufficient variation of observations	-
To investigate the moderating effect of corporate governance on the relationship between firm value and foreign tax rates differentials of non-persistent profit-making companies	H_{4h}	Interactive variable between non-persistent profit-making companies and foreign tax rates differentials (NPSTDUM_TFTR)	+/-	Cannot be tested due to insufficient variation of observations	-

Hypotheses related to components of tax saving of non-persistent profit-making companies, however, could not be tested due to lack of variations in the components of tax saving of non-persistent profit-making companies. Therefore, this study does not provide evidence for those particular hypotheses.

The sample to test the above-mentioned hypotheses consists of non-financial publicly-traded LSE-listed companies. The collected data cover the three-year period from 2005 until 2007. In testing the relationship between firm value and tax planning, the final sample of persistent profit-making and combined persistent and non-persistent profit-making companies is 444 and 472 firms-years respectively. In examining the relationship between firm value and components of tax saving, the final sample of persistent profit-making and combined persistent and non-persistent profit-making companies is 405 and 455

firms-years respectively. These panel datasets are as after the exclusions of outliers and influential observations.

8.2.2 Summary of the Findings and Discussions

The descriptive statistics presented in Chapter 7 show an existence of tax planning activities across companies in the U.K. On average, the tax saving within the persistent profit-making companies is of 2.89 per cent of the PBT while for non-persistent profit-making companies, the average negative tax saving is 2.90 per cent. This also indicates general variations in the level of tax planning between both samples. In terms of components of tax saving, with scale effect consideration, the highest tax saving component of persistent profit-making companies (in terms of magnitude) is temporary differences, followed by (in order) unclassified items, NOLs, foreign tax rates differentials and permanent differences while for non-persistent profit-making companies, the rank from the highest to the lowest is as follows: temporary differences, permanent differences, NOLs and foreign tax rates differentials. There is "zero" magnitude of unclassified items of non-persistent profit-making companies during the sample period.

The descriptive statistics also reveal companies' corporate governance structure in the sense of board size, proportion of non-executive directors, directors' ownership, institutional ownership, multi-directorship and executive directors' compensation. The average number of directors who serve the board for both samples (persistent profit-making companies and non-persistent profit-making companies) is eight directors. In terms of board composition, the average percentage of non-executive directors to total directors of persistent profit-making companies and non-persistent profit-making companies is 57 per cent and 58 per cent respectively. Directors who serve more than one board or company are described as at 49 per cent for persistent profit-making companies and 44 per cent for non-persistent profit-making companies. The average equity ownerships of the directors of both samples are at seven per cent of total common equity while the average institutional ownership of persistent and non-

persistent samples is at 34 per cent and 39 per cent respectively. In terms of executive directors' salary compensation, the companies averagely spent £987,577 and £808,229 for all executive directors of persistent and non-persistent profit-making companies respectively.

8.2.2.1 Firm Value and Tax Planning

Chapter 7 presents the multivariate results of the relationship between firm value and tax planning based on persistent profit-making companies, combined persistent and non-persistent profit-making companies and components of tax saving of persistent profit-making companies. In summary, the results exhibit that tax planning by persistent profit-making companies is negatively valued by the shareholders. This result could be related to shareholders' concern on moral hazard risk in tax planning or other tax planning-related risks, for example, the risk related to inspection or investigation by the authority (Slemrod, 2005; Desai and Dharmapala, 2009; Chen *et al.*, 2010). The risks of being challenged by the tax authority is highlighted in the case of *Furniss v Dawson* (Tiley, 2005) when the expected tax saving may be reduced by the authority's actions in countering tax planning activities, for example by implementing "arm's length price". Therefore, it can be concluded that the results support the hypothesis that predicts an association between firm value and the extent of tax planning activities.

A similar relationship is also found between firm value and tax planning by non-persistent profit-making companies. The results report that the interactive variable that proxies the extent of tax planning activities of non-persistent profit-making companies is negatively related with firm value. This suggests that earning persistency provides indications to shareholders on the managers' ability to pursue long-run tax planning (Dyreng *et al.*, 2008). Therefore, the results support the hypothesis that predicts an association between firm value and the extent of tax planning activities of non-persistent profit-making companies.

In addition to the above results, the findings also present negative shareholders' valuation on the permanent differences component of tax saving of persistent profit-making companies. The results are derived from the multivariate analysis that tests the relationship between firm value and the components of tax saving. These results support Frank *et al.*'s (2009) arguments on the influence of permanent differences on shareholders' valuation but in a negative direction. Therefore, the above negative relationship between firm value and tax planning can be generally inferred as related to the permanent differences component of tax saving. The other components of tax saving, temporary differences, NOLs and foreign tax rates differentials, are found as not significantly related with firm value, suggesting that these components have a low impact on shareholders' tax planning valuation. These results may be related to "inability" or "inefficiency" of shareholders in recognising the temporary tax planning components of reported earnings (Shane and Stock, 2006). Overall, the results support the hypothesis that predicts an association between firm value and the permanent differences component of tax planning activities. The results, however, fail to support the hypotheses that predict an association between firm value and the other three components of tax saving, which are temporary differences, NOLs and foreign tax rates differentials respectively.

In assessing whether the nature of the above relationships, between firm value and each of the components of tax saving of persistent profit-making companies, differs from one another, the chi-squared test was conducted. The results indicate that the coefficient estimate of the permanent differences component is significantly different compared to the other three components, temporary differences, foreign tax rates differentials and NOLs, suggesting that shareholders value the permanent differences component differently from the others due to differently perceived components' benefits and risks. This may be due the perception that permanent differences, compared to other components, are related with managers' aggressiveness in tax planning (Frank *et al.*, 2009) and this consequently indicates a high risk of managerial opportunism in tax planning. However, the differences between coefficient estimates of each of the other three components, temporary differences, foreign tax rates differentials and NOLs, are not significant at five per cent level. Therefore, as the results only find

a significant difference on shareholders' valuation between permanent differences and the other three components, it can be concluded that the results do not support the hypothesis that predicts a different nature of the relationship between market value and each of the four components of tax saving, namely permanent differences, temporary differences, NOLs and foreign tax rates differentials.

8.2.2.2 Firm Value, Tax Planning and Corporate Governance

The multivariate results on the moderating influence of corporate governance on the relationship between firm value and tax planning are presented in Chapter 7. The chapter also reports the results of the additional analyses that were conducted to assess whether the above detected relationships are conditional upon the strength of companies' corporate governance structures.

The results show that corporate governance is not a controlling factor in the relationship between firm value and tax planning for both persistent and non-persistent profit-making companies. Specifically, with the inclusion of corporate governance variables, the coefficient estimates of tax planning of both for persistent and non-persistent profit-making companies are reported as higher than their initial estimates, i.e. without corporate governance variables. However, the coefficient estimates of the tax planning variable of both models, with and without corporate governance variables, for both persistent and non-persistent profit-making companies are insignificantly different from each other. Although the findings exhibit that, with corporate governance, shareholders value the tax planning even more negatively, the insignificant difference between both estimates does not support the argument on the importance of corporate governance practice to shareholders' tax planning valuation, as highlighted by Henderson Global Investors (2005) and Desai and Dharmapala (2009). This may be due to shareholders' perception that good corporate governance practice in the U.K. is generally in operation and therefore corporate governance practice is not a discriminating factor from the shareholders' point of view (Bauer *et al.*, 2004). The consistent results of a negative relationship between firm value and tax

planning of both models, with and without corporate governance variables, are in line with Hanlon and Slemrod's (2009) arguments on shareholders' doubts about managers' role in enhancing shareholders' wealth, particularly in conducting tax planning activities. Therefore, it can be concluded that the results do not support the hypotheses in examining the moderating influence of corporate governance on the relationship between firm value and the extent of tax planning activities of persistent and non-persistent profit-making companies respectively.

A similar implication of corporate governance on shareholders' tax planning valuation is also observed in the relationship between firm value and the components of tax saving. Although a significant negative relationship is found with respect to permanent differences, the estimates of the permanent differences variable of both models, with and without corporate governance variables, are insignificantly different between one another. Similar to the initial results of the relationship between firm value and the other components of tax saving, the coefficient estimates of the components, temporary differences, foreign tax rates differentials and NOLs, are also found to be insignificant, suggesting that corporate governance does not affect the relationship between firm value and the three components. Overall, the results fail to support the hypothesis that predicts the moderating influence of corporate governance on the association between firm value and the permanent differences component of tax planning activities. The results were also found not to support the hypotheses in predicting the moderating influence of corporate governance on the association between firm value and the other three components of tax saving, which are temporary differences, NOLs and foreign tax rates differentials respectively.

In the subsequent analyses of the implications of corporate governance structure on the relationship between firm value and tax planning of persistent profit-making companies, the results from the estimation models with the inclusion of interactive variables between tax planning and corporate governance indicate an insignificant relationship between firm value and the interactive variables. This insignificant result does not support Desai and Dharmaphala's (2009) argument on the stronger effect of tax planning on firm value when the corporate governance structure is stronger.

However, when the same estimation is analysed using combined persistent and non-persistent profit-making companies, the results reveal significant relationships between firm value and the interactive variables between tax planning of the non-persistent profit-making companies and corporate governance. The results suggest that the moderating influence of corporate governance on the relationship between firm value and tax planning of non-persistent profit-making companies is conditional upon the strength of corporate governance structure. Based on this result, the interactions between the proportions of non-executive directors and tax planning and between the institutional investors and tax planning are respectively documented as negatively and positively related with shareholders' valuation. These results support the arguments on political constraint of non-executive directors (Agrawal and Knoeber, 1996) and effective monitoring of institutional investors (Desai and Dharmapala, 2009).

In examining whether the corporate governance implication in shareholders' valuation on components of tax saving is conditional upon the strength of corporate governance structure, significant negative relationships are found between firm value and three interaction variables: first, between institutional ownership and NOLs; second, between institutional ownership and foreign tax rates differentials; and third, between institutional ownership and unclassified items. These results imply the importance of institutional ownership structure in shareholders' tax planning valuation, specifically from the aspect of NOLs, foreign tax rates differentials and unclassified items.

The above implication of corporate governance is also tested by splitting the sample around the median of corporate governance score. This analysis is tested on both persistent and combined persistent and non-persistent profit-making companies. The results show a higher negative tax planning coefficient estimate within the "low" corporate governance firms-years of persistent profit-making companies than the tax saving coefficient estimate within the other observations. However, there is no significant difference between the two estimates. In terms of non-persistent profit-making companies, the interactive variable is found to be negatively related with firm value only in the case of "low" corporate governance

firms-years. However, no significant relationship is found in the interactive variable within the "high" governance firms-years. These results suggest that tax planning by non-persistent profit-making companies is viewed as a set of value-decreasing activities within the companies that have poor corporate governance practice. This interpretation is consistent with Desai and Dharmapala's (2009) argument on the importance of corporate governance practice to shareholders in valuing tax planning as a wealth creation activity by managers. This finding provides an explanation for the initial results of an insignificant moderating effect of corporate governance for non-persistent profit-making companies. Analysing the moderating influence of corporate governance in such a way provides further evidence to the findings of the model that tests an implication of strong corporate governance structure on shareholders' tax planning valuation where both corporate governance variables (proportion of non-executive director and institutional ownership) signify conflicting effects on shareholders' tax planning valuation, i.e. negative coefficient estimate of interaction variable between tax saving of non-persistent profit-making companies and proportion of non-executive director and positive coefficient estimate of interaction variable between tax saving of non-persistent profit-making companies and proportion of institutional ownership. Therefore, by splitting the sample around the median of the total corporate governance score, the results highlight the general implication of corporate governance structure in which it indicates that the negative shareholders' tax planning valuation exists only within non-persistent companies that exhibit poor corporate governance practice.

In summary, this study finds only weak evidence of a moderating effect of corporate governance on shareholders' tax planning valuation. Therefore, it can be concluded that corporate governance practice does not moderate the relationship between firm value and tax planning. In general, shareholders negatively value tax planning activities.

8.3 Contributions

This section discusses the methodological and theoretical contributions, and the practical and policy implications. In the context of this study, the methodological contributions are related to the focus of the sample, measures of tax saving components and the process to determine the measure of corporate governance. The theoretical contributions section focuses on the significance of this study in terms of the Scholes-Wolfson framework, the agency theory and value relevance literature. The final sub-section, practical and policy implications, concentrates on the contributions in the sense of corporate governance disclosure, tax planning activities reporting, and shareholders' concern on tax planning activities to academic researchers, authorities and managers.

8.3.1 Methodological Contributions

This study contributes to the methodology firstly through its sample selection. The sample of this study comprises non-financial publicly-traded companies that are listed in the LSE. As there is a general dearth of previous studies examining the relationship between firm value and tax planning outside the U.S. setting, this study contributes to the literature by providing empirical evidence on the relationship in the U.K. environment. To the researcher's knowledge, this is the first study that examines the relationship between firm value and tax planning in the U.K. setting. This contribution is significant for the body of knowledge as the tax-related regulations and enforcements differ between the U.S. and the U.K. The difference includes a different level of tax authority aggressiveness in minimising the level of tax avoidance and evasion among large businesses (Hampton, 2005; Varney, 2006; Freedman, Loomer and Vella, 2007). Similarly, the variation in the regulations between both countries is also applicable in the sense of corporate governance regulation. In the U.S., corporate governance is regulated by the Sarbanes-Oxley Act 2002, in which corporate governance misconduct is subject to fines and imprisonment penalties but, in contrast, the U.K. corporate governance regulation is enacted by common law and is based on

"comply and explain" (Dowdney, 2005). Therefore, by focusing on the U.K. sample, this study indirectly examines shareholders' perception and awareness of the U.K. corporate governance regulations.

Secondly, this study contributes to the methodology by way of tax planning measures. In investigating the relationship between firm value and the components of tax saving, this study, by reference to IAS 12 and previous related studies, disaggregates the total tax saving into five components: permanent differences, temporary differences, NOLs, foreign tax rates differentials and unclassified items. This is explained in detail in Chapter 6. By classifying the tax reconciliation items into the components, this study provides a better picture of the shareholders' valuation on the tax planning activities. This refined tax planning measure allows the researcher to investigate whether shareholders have different valuations on each component of tax saving. Although studies on components of tax saving have been conducted by previous researchers (Boatsman *et al.*, 2002; Hanlon, 2005; Atwood and Reynolds, 2008; Bauman and Shaw, 2008), this study is different as it does not focus only on one selective component. This is clearly exhibited by Table 6.5 of Chapter 6. Therefore, by refining the tax saving measure, this study contributes to the methodology in the sense of filling the literature gap in investigating shareholders' valuation on the components of tax saving comprehensively.

In addition to the above, this study also methodologically contributes to the knowledge through the process of corporate governance variables determination. In the context of this research, previous studies have selectively determined the corporate governance proxy, for example, institutional ownership (Desai and Dharmapala, 2009) and shareholders' rights based on mergers and takeover provisions (Hanlon and Slemrod, 2009; Wilson, 2009). This study, on the other hand, measures corporate governance variables through factor analysis, which leads to the derivation of general corporate governance measures. This in turn allows the conclusion that the findings are the consequence of companies' general corporate governance practice. Moreover, considering corporate governance mechanisms may substitute each other (Ho and Shun Wong, 2001), determining the corporate governance measure through this process yields the

estimation results that have controlled for redundancy of the roles of corporate governance mechanisms. Therefore, it can be concluded that this study contributes to the tax governance literature by suggesting data reduction procedures in determining general corporate governance mechanisms to represent companies' corporate governance conduct.

8.3.2 Theoretical Contributions

The Scholes-Wolfson framework (Scholes and Wolfson, 1992) and agency theory (Jensen and Meckling, 1976) are the two main theories that underpin the hypotheses development. This study contributes to the theories by adding further understanding of the contribution or otherwise of corporate governance from the aspect of shareholders' tax planning valuation in the U.K. environment.

As explained in Chapter 2, the Scholes-Wolfson tax planning framework suggests three important principles in tax planning decisions: consideration should be given to all contracting parties, all taxes, and all costs. These principles are important in achieving effective tax planning objective that is increase the after-tax return. By applying the framework, this study contributes to the theory through further empirical analysis and results to support the framework. The results of this study show shareholders' concern about the tax planning activities carried out by the managers. This adds further empirical evidence on the importance of shareholders as one of the contracting parties in tax planning, particularly in the U.K. The findings also indicate that shareholders in the U.K. are aware of the risks of tax planning activities, which in turn can increase the cost of tax planning by way of increasing agency-related costs; as a consequence, this can reduce the expected benefits of the activities to the shareholders. The analysis is within the spirit of the Scholes-Wolfson framework because the effect of taxation is considered with respect to the share price, i.e. the net effect on shareholders after all taxes and costs. Therefore the empirical analysis and findings derived therefrom add further empirical evidence and understanding to the theory.

This study contributes to the understanding of agency theory by providing empirical evidence on the owners-managers conflict proposition in shareholders' tax planning valuation, particularly in the U.K. setting. Although there are previous tax planning-related studies that provide evidence on this conflict-of-interests hypothesis, the studies, however, focus only on the U.S. setting (Desai and Dharmapala, 2009; Hanlon and Slemrod, 2009; Wilson, 2009). As highlighted above (section 8.3.1), the U.K.'s taxation and corporate governance regulations are different compared to the U.S. regulations and this can contribute to differences in shareholders' perception between countries. Therefore, it can be concluded that this study expands the understanding of corporate governance in tax planning valuation from the U.K. companies' shareholders' point of view.

In addition to the above theories, this study also contributes to value relevance literature as it applies a valuation relevance approach in the analyses. It provides further empirical evidence on shareholders' tax planning valuation, particularly in the U.K. This study finds that shareholders impound the extent of tax planning activities in determining the firm value. Similar evidence is also found between firm value and the permanent differences component of tax saving, suggesting that, in addition to the aggregate tax saving information, shareholders also consider the said component in their valuation.

Based on the above discussions, this study contributes to the theories by extending the general knowledge on tax planning, corporate governance and value relevance. This study finds empirical evidence that supports not only the Scholes-Wolfson framework and agency theory but also the valuation relevance literature.

8.3.3 Practical and Policy Implications

The evidence found by this study has practical and policy knowledge implications for at least three parties: academic researchers, authorities and company managers. The said authorities include regulatory agencies related to taxation, corporate governance and financial reporting.

The results highlight that the extent of tax planning activities in the U.K. is value-relevant. These findings contradict the findings of a similar U.S. study by Desai and Dharmapala (2009) that investigates the relationship between firm value and tax avoidance in which the tax avoidance variable is found not to be significantly related to the firm value. This suggests general implications of different tax and governance regulations on companies' market value. Therefore, tax planning researchers, particularly in the research that utilises U.K. data, should pay attention to the practical and policy differences in generalising the findings of literature based on other countries' settings.

In addition to the academics, the results also provide practical and policy implications for the authorities from the aspects of both enforcement and regulation. In terms of taxation, the results indicate that there is a certain level of tax planning activity within the large companies in the U.K. If this is viewed as a factor that distorts the public good (Slemrod, 2004), the results suggest that the tax authority should enforce further action additional to the existing tax avoidance and evasion-minimising strategies and schemes. The results also show that the activities are not viewed by shareholders as value creation activities. Considering that the sample period is related to the tax-risk assessment enforcement, this may imply positive implications of the assessment from the shareholders' point of view. In this context, shareholders may be less likely to support tax planning by managers as it may lead to a "high risk" classification by the authority. This in turn may influence managers' tax planning-related decisions to focus on "tax assurance" rather than "aggressive tax planning" (SustainAbility Ltd, 2006). This argument can be confirmed by replicating this study using a sample period prior to the enforcement of the assessment.

From the corporate governance aspect, this study contributes to practical and policy implications through the findings that indicate an insignificant effect of corporate governance on shareholders' tax planning valuation. If this signifies that the current corporate governance practices or disclosures are not enough to provide governance information to shareholders in assessing managers' moral hazard in tax planning, the financial reporting authorities should require reporting rules and regulations that require managers to be more transparent, in

terms of corporate governance conduct, to the shareholders. Conversely, if there is already sufficient corporate governance disclosure to allow shareholders to assess tax planning as a value-decreasing activity, shareholders may need to become more active in limiting managers' moral hazard via tax planning. Similar to disclosure of corporate governance practices, as the results indicate that shareholders consider tax expense information in equity-pricing, the authority should also pay attention to whether the current disclosure requirements, particularly on tax expense, are adequate in providing sufficient tax planning information to shareholders.

In terms of company managers, the practical implications of this study are more concerned with the transparency of tax planning information. The results on negative perception of shareholders on tax planning activities may indicate an inadequate supply of tax planning information to shareholders in valuing tax planning as a value creation activity. If this information asymmetry issue has been considered by the managers in tax planning reporting, the managers should make tax planning-related decisions with an awareness of the decrement effect on firm value.

8.4 Limitations and Suggestions for Future Study

This section discusses limitations of this study that constrain the generalisability of the results. This section also highlights suggestions for future study. The limitations of this study are related to the methodology aspects comprising the sample framework and data collection.

The sample framework of this study is limited to only non-financial LSE public listed companies. As a consequence, the findings of this study may be not suitable for generalisation to the other types of companies. In terms of data collection, as the financial and corporate governance data were collected from secondary sources, a validity issue may arise. This is due to the weakness of the said sources in accurately presenting the data from the original sources (Zikmund, 2003). However, as highlighted in Chapter 6, the collected data have

been verified through sample cross-checks between the data from the secondary sources and the original sources, for example, annual report and LSE website.

Despite the above limitations, the findings of this study provide some motivations and indications for future studies. As highlighted above (section 8.3.3), the contradictory findings between this study and similar U.S. studies may be a result of different rules and regulations between countries, particularly related to taxation and corporate governance. Therefore, to confirm this argument, a future study that investigates and compares the shareholders' tax planning valuation from the aspect of different sets of rules and regulations should be conducted.

In addition, as this study does not address an adequacy of disclosure issue from the shareholders' perspective, future research should consider the sufficiency of current disclosure requirements in supplying important tax-related information to shareholders, particularly for the decision-making process. This issue should be studied from both taxation and corporate governance aspects.

As explained in Chapter 2, this study defines tax planning as consisting of both evasion and avoidance. To further investigate shareholders' tax planning valuation from the aspect of avoidance separately from evasion, or *vice-versa*, future research should investigate this valuation with attention to the legal aspect definitions of avoidance and evasion. Consequently, future research should focus on obtaining more sophisticated proxies of unobservable tax avoidance and evasion in order to evaluate their relative valuation implications.

In addition, as this study does not test whether the findings are conditional upon tax implication of peer companies, an event study could be conducted to determine whether any "contagion" effect, i.e. effect of other companies on another company within similar characteristics, for example within a specific industrial classification (Gleason, Jenkins and Johnson, 2008), exists in the shareholders' tax planning valuation. In line with literature that finds "contagion" effects in accounting (Gleason *et al.*, 2008), peer companies effects are expected

to exist in the case of shareholders' responses to tax specific news, for example news about penalty on tax evasion that was imposed on peer companies.

8.5 Conclusions

This study contributes to the existing knowledge by providing evidence on shareholders' tax planning valuation in the U.K. context. It also methodologically contributes to the current literature by refining the tax planning measure in terms of components of tax saving comprising permanent differences, temporary differences, NOLs and foreign tax rates differentials. In addition, this study contributes to the literature by applying a data reduction method in determining corporate governance variables so as to ensure that the variables are more representative as compared to the selection method of corporate governance variables. From a theoretical aspect, this study contributes to the existing theories by confirming that shareholders are an affected party of tax planning activities within U.K.-quoted companies. In addition, this study provides evidence of an insignificant controlling effect of corporate governance on shareholders' tax planning valuation. The findings also highlight the practical and policy implications in terms of disclosures of tax expense, effective tax rates reconciliation and corporate governance to academics, authorities and company managers.

Limitations that have been discussed in this chapter consist of limitations in the sense of a sample framework that concentrates on large U.K. companies and the validity of the secondary data sources. A further limitation is the use of a proxy of tax saving. Based on these limitations and the findings that are derived from the analyses, several recommendations for future research have been made. The recommendations comprise comparison between countries, adequacy of disclosure issue, legal aspect of evasion and avoidance, and "contagion" effects on shareholders' tax planning valuation. Therefore, with these recommendations, this study is expected to motivate future researchers to involve themselves with

this kind of research especially with a view to providing more evidence on shareholders' tax planning valuation.

In summary, this study, which aims to investigate the relationship between firm value and tax planning while simultaneously considering corporate governance as a moderating influence, finds that shareholders of persistent profit-making companies value tax planning as a value-deceasing activity. In addition, tax saving of non-persistent profit-making companies is also found to be related with firm value implying shareholders' negative perception of the companies' ability in pursuing long-run tax planning. In terms of shareholders' valuation on the components of tax saving, permanent differences are found to outweigh the other components of tax saving in shareholders' tax planning valuation. In the case of the corporate governance controlling effect, there is limited evidence that corporate governance factors have a moderating effect on the firm value-tax planning relationship.

Appendix A: Summary of Estimation Models and Variables Measurements

Estimation models:

To examine the relationship between firm value and tax planning of persistent profit-making companies:

$$MVE_{it+3months} = \beta_0 + \beta_1 BVE_{it} + \beta_2 PBT_{it} + \beta_3 TS_{it} + \beta_4 CC_{it} + \beta_5 EM_{it} + \beta_6 CAPINT_{it} + \beta_7 LEV_{it} + \beta_8 DIV_{it} + \beta_9 FS_{it} + \sum_{n=10}^{16} \beta_n INDDUM_{it} + \varepsilon_{it} \quad (15)$$

To examine the relationship between firm value and components of tax saving of persistent profit-making companies:

$$MVE_{it+3months} = \beta_0 + \beta_1 BVE_{it} + \beta_2 PBT_{it} + \beta_3 TLOSS_{it} + \beta_4 TPD_{it} + \beta_5 TTD_{it} + \beta_6 TFTR_{it} + \beta_7 TUNC_{it} + \beta_8 CC_{it} + \beta_9 EM_{it} + \beta_{10} CAPINT_{it} + \beta_{11} LEV_{it} + \beta_{12} DIV_{it} + \beta_{13} FS_{it} + \sum_{n=14}^{20} \beta_n INDDUM_{it} + \varepsilon_{it} \quad (16)$$

To examine the relationship between firm value and tax planning of non-persistent profit-making companies:

$$MVE_{it+3months} = \beta_0 + \beta_1 BVE_{it} + \beta_2 PBT_{it} + \beta_3 TS_{it} + \beta_4 NPSTDUMTS_{it} + \beta_5 CC_{it} + \beta_6 EM_{it} + \beta_7 CAPINT_{it} + \beta_8 LEV_{it} + \beta_9 DIV_{it} + \beta_{10} FS_{it} + \sum_{n=11}^{18} \beta_n INDDUM_{it} + \varepsilon_{it} \quad (17)$$

To examine the relationship between firm value and the components of tax saving of non-persistent profit-making companies:

$$MVE_{it+3months} = \beta_0 + \beta_1 BVE_{it} + \beta_2 PBT_{it} + \beta_3 TLOSS_{it} + \beta_4 TPD_{it} + \beta_5 TTD_{it} + \beta_6 TFTR_{it} + \beta_7 TUNC_{it} + \beta_8 NPSTDUM_{it}\_TLOSS_{it} + \beta_9 NPSTDUM_{it}\_TPD_{it} + \beta_{10} NPSTDUM_{it}\_TTD_{it} + \beta_{11} NPSTDUM_{it}\_TFTR_{it} + \beta_{12} NPSTDUM_{it}\_TUNC_{it} + \beta_{13} CC_{it} + \beta_{14} EM_{it} + \beta_{15} CAPINT_{it} + \beta_{16} LEV_{it} + \beta_{17} DIV_{it} + \beta_{18} FS_{it} + \sum_{n=19}^{25} \beta_n INDDUM_{it} + \varepsilon_{it} \quad (18)$$

To examine the moderating effect of corporate governance on the relationship between firm value and tax planning of persistent profit-making companies:

$$MVE_{it+3months} = \beta_0 + \beta_1 BVE_{it} + \beta_2 PBT_{it} + \beta_3 TS_{it} + \beta_4 NED_{it} + \beta_5 IOWN_{it} + \beta_6 CC_{it} + \beta_7 EM_{it} + \beta_8 CAPINT_{it} + \beta_9 LEV_{it} + \beta_{10} DIV_{it} + \beta_{11} FS_{it} + \sum_{n=12}^{18} \beta_n INDDUM_{it} + \varepsilon_{it} \quad (19)$$

To examine the moderating effect of corporate governance on the relationship between firm value and tax planning of non-persistent profit-making companies:

$$MVE_{it+3months} = \beta_0 + \beta_1 BVE_{it} + \beta_2 PBT_{it} + \beta_3 TS_{it} + \beta_4 NPSTDUMTS_{it} + \beta_5 NED_{it} + \beta_6 IOWN_{it} + \beta_7 CC_{it} + \beta_8 EM_{it} + \beta_9 CAPINT_{it} + \beta_{10} LEV_{it} + \beta_{11} DIV_{it} + \beta_{12} FS_{it} + \sum_{n=13}^{20} \beta_n INDDUM_{it} + \varepsilon_{it} \quad (20)$$

To examine whether the effect of corporate governance on the relationship between firm value and tax planning of persistent profit-making companies is conditional upon the strength of companies' corporate governance structure:

$$MVE_{it+3months} = \beta_0 + \beta_1 BVE_{it} + \beta_2 PBT_{it} + \beta_3 TS_{it} + \beta_4 NED_{it} + \beta_5 IOWN_{it} + \beta_6 TS_{it}\_NED_{it} + \beta_7 TS_{it}\_IOWN_{it} + \beta_8 CC_{it} + \beta_9 EM_{it} + \beta_{10} CAPINT_{it} + \beta_{11} LEV_{it} + \beta_{12} DIV_{it} + \beta_{13} FS_{it} + \sum_{n=14}^{20} \beta_n INDDUM_{it} + \varepsilon_{it} \quad (21)$$

To examine whether the effect of corporate governance on the relationship between firm value and tax planning of non-persistent profit-making companies is conditional upon the strength of companies' corporate governance structure:

$$MVE_{it+3months} = \beta_0 + \beta_1 BVE_{it} + \beta_2 PBT_{it} + \beta_3 TS_{it} + \beta_4 NPSTDUMTS_{it} + \beta_5 NED_{it} + \beta_6 IOWN_{it} + \beta_7 TS_{it}\_NED_{it} + \beta_8 TS_{it}\_IOWN_{it} + \beta_9 NPSTDUMTS_{it}\_NED_{it} + \beta_{10} NPSTDUMTS_{it}\_IOWN_{it} + \beta_{11} CC_{it} + \beta_{12} EM_{it} + \beta_{13} CAPINT_{it} + \beta_{14} LEV_{it} + \beta_{15} DIV_{it} + \beta_{16} FS_{it} + \sum_{n=17}^{24} \beta_n INDDUM_{it} + \varepsilon_{it} \quad (22)$$

To examine the moderating effect of corporate governance on the relationship between firm value and components of tax saving of persistent profit-making companies:

$$MVE_{it+3months} = \beta_0 + \beta_1 BVE_{it} + \beta_2 PBT_{it} + \beta_3 TLOSS_{it} + \beta_4 TPD_{it} + \beta_5 TTD_{it} + \beta_6 TFTR_{it} + \beta_7 TUNC_{it} + \beta_8 NED_{it} + \beta_9 IOWN_{it} + \beta_{10} CC_{it} + \beta_{11} EM_{it} + \beta_{12} CAPINT_{it} + \beta_{13} LEV_{it} + \beta_{14} DIV_{it} + \beta_{15} FS_{it} + \sum_{n=16}^{22} \beta_n INDDUM_{it} + \varepsilon_{it} \quad (23)$$

To examine the moderating effect of corporate governance on the relationship between firm value and components of tax saving of non-persistent profit-making companies:

$$MVE_{it+3months} = \beta_0 + \beta_1 BVE_{it} + \beta_2 PBT_{it} + \beta_3 TLOSS_{it} + \beta_4 TPD_{it} + \beta_5 TTD_{it} + \beta_6 TFTR_{it} + \beta_7 TUNC_{it} + \beta_8 NPSTDUM_{it} \_ TLOSS_{it} + \beta_9 NPSTDUM_{it} \_ TPD_{it} + \beta_{10} NPSTDUM_{it} \_ TTD_{it} + \beta_{11} NPSTDUM_{it} \_ TFTR_{it} + \beta_{12} NPSTDUM_{it} \_ TUNC_{it} + \beta_{13} NED_{it} + \beta_{14} IOWN_{it} + \beta_{15} CC_{it} + \beta_{16} EM_{it} + \beta_{17} CAPINT_{it} + \beta_{18} LEV_{it} + \beta_{19} DIV_{it} + \beta_{20} FS_{it} + \sum_{n=21}^{27} \beta_n INDDUM_{it} + \varepsilon_{it} \quad (24)$$

To examine whether the effect of corporate governance on the relationship between firm value and components of tax saving of persistent profit-making companies is conditional upon the strength of companies' corporate governance structure:

$$MVE_{it+3months} = \beta_0 + \beta_1 BVE_{it} + \beta_2 PBT_{it} + \beta_3 TLOSS_{it} + \beta_4 TPD_{it} + \beta_5 TTD_{it} + \beta_6 TFTR_{it} + \beta_7 TUNC_{it} + \beta_8 NED_{it} + \beta_9 IOWN_{it} + \beta_{10} TLOSS_{it} \_ NED_{it} + \beta_{11} TLOSS_{it} \_ IOWN_{it} + \beta_{12} TPD_{it} \_ NED_{it} + \beta_{13} TPD_{it} \_ IOWN_{it} + \beta_{14} TTD_{it} \_ NED_{it} + \beta_{15} TTD_{it} \_ IOWN_{it} + \beta_{16} TFTR_{it} \_ NED_{it} + \beta_{17} TFTR_{it} \_ IOWN_{it} + \beta_{18} TUNC_{it} \_ NED_{it} + \beta_{19} TUNC_{it} \_ IOWN_{it} + \beta_{20} CC_{it} + \beta_{21} EM_{it} + \beta_{22} CAPINT_{it} + \beta_{23} LEV_{it} + \beta_{24} DIV_{it} + \beta_{25} FS_{it} + \sum_{n=26}^{32} \beta_n INDDUM_{it} + \varepsilon_{it} \quad (25)$$

To examine whether the effect of corporate governance on the relationship between firm value and components of tax saving of non-persistent profit-making companies is conditional upon the strength of companies' corporate governance structure:

$$MVE_{it+3months} = \beta_0 + \beta_1 BVE_{it} + \beta_2 PBT_{it} + \beta_3 TLOSS_{it} + \beta_4 TPD_{it} + \beta_5 TTD_{it} + \beta_6 TFTR_{it} + \beta_7 TUNC_{it} + \beta_8 NPSTDUM_{it}\_TLOSS_{it} + \beta_9 NPSTDUM_{it}\_TPD_{it} + \beta_{10} NPSTDUM_{it}\_TTD_{it} + \beta_{11} NPSTDUM_{it}\_TFTR_{it} + \beta_{12} NPSTDUM_{it}\_TUNC_{it} + \beta_{13} NED_{it} + \beta_{14} IOWN_{it} + \beta_{15} TLOSS_{it}\_NED_{it} + \beta_{16} TLOSS_{it}\_IOWN_{it} + \beta_{17} TPD_{it}\_NED_{it} + \beta_{18} TPD_{it}\_IOWN_{it} + \beta_{19} TTD_{it}\_NED_{it} + \beta_{20} TTD_{it}\_IOWN_{it} + \beta_{21} TFTR_{it}\_NED_{it} + \beta_{22} TFTR_{it}\_IOWN_{it} + \beta_{23} TUNC_{it}\_NED_{it} + \beta_{24} TUNC_{it}\_IOWN_{it} + \beta_{25} NPSTDUMTLOSS_{it}\_NED_{it} + \beta_{26} NPSTDUMTLOSS_{it}\_IOWN_{it} + \beta_{27} NPSTDUMTPD_{it}\_NED_{it} + \beta_{28} NPSTDUMTPD_{it}\_IOWN_{it} + \beta_{29} NPSTDUMTTD_{it}\_NED_{it} + \beta_{30} NPSTDUMTTD_{it}\_IOWN_{it} + \beta_{31} NPSTDUMTFTR_{it}\_NED_{it} + \beta_{32} NPSTDUMTFTR_{it}\_IOWN_{it} + \beta_{33} NPSTDUMTUNC_{it}\_NED_{it} + \beta_{34} NPSTDUMTUNC_{it}\_IOWN_{it} + \beta_{35} CC_{it} + \beta_{36} EM_{it} + \beta_{37} CAPINT_{it} + \beta_{38} LEV_{it} + \beta_{39} DIV_{it} + \beta_{40} FS_{it} + \sum_{n=41}^{47} \beta_n INDDUM_{it} + \varepsilon_{it} \quad (26)$$

Note: Figures in brackets reflect reference numbers of the estimation models in Chapter 6.

Table A.1
Variables Descriptions and Measurements

Variables	Description	Measurement
$MVE_{it+3months}$	Market value of equity	Market value of equity 3 months after the year-end/BVE_{t-1}
BVE_{it}	Book value of equity	BVE/BVE_{t-1}
PBT_{it}	Profit before tax	PBT/BVE_{t-1}
TS_{it}	Tax saving	$(STR-ETR)*PBT/BVE_{t-1}$
CC_{it}	Capital contribution	Net proceeds from sales or issues of common and preferred shares/BVE_{t-1}
EM_{it}	Earnings management	Profit before tax – Cash flow from operating activities/BVE_{t-1}
$CAPINT_{it}$	Capital intensity	Gross machinery and equipment/Total assets
LEV_{it}	Leverage	Long-term debt/Total assets
DIV_{it}	Dividend payout	(Dividends Per Share/Earnings Per Share)*100
FS_{it}	Foreign sales	Percentage of foreign sales over total net sales
$INDDUM_{it}$	Industry dummy	1 for each particular industry classification, 0 otherwise and an industry is eliminated for reference purpose.
$TLOSS_{it}$	Tax losses	NOLs reconciling items/ BVE_{t-1}
TPD_{it}	Permanent differences	Permanent difference reconciling items/BVE_{t-1}
TTD_{it}	Temporary differences	Temporary difference reconciling items/BVE_{t-1}
$TFTR_{it}$	Foreign tax rates differentials	Foreign tax differential reconciling items/BVE_{t-1}
$TUNC_{it}$	Unclassified items	Unclassified reconciling items/BVE_{t-1}
$NPSTDUMTS_{it}$	Interaction variable between non-persistent profit makers dummy and tax saving	NPSTDUM * TS
$NPSTDUM_{it}\_TLOSS_{it}$	Interaction variable between non-persistent profit makers dummy and tax losses	NPSTDUM*TLOSS
$NPSTDUM_{it}\_TPD_{it}$	Interaction variable between non-persistent profit makers dummy and permanent differences	NPSTDUM*TPD

$NPSTDUM_{it}\_TTD_{it}$	Interaction variable between non-persistent profit makers dummy and temporary differences	NPSTDUM*TTD
$NPSTDUM_{it}\_TFTR_{it}$	Interaction variable between non-persistent profit makers dummy and foreign tax rates differentials	NPSTDUM*TFTR
$NPSTDUM_{it}\_TUNC_{it}$	Interaction variable between non-persistent profit makers dummy and unclassified items	NPSTDUM*TUNC
NED_{it}	Non-executive directors	Percentage of non-executive directors to total number of directors
$IOWN_{it}$	Institutional ownership	Percentage of shares held by substantial institutional shareholders
$TS_{it}\_NED_{it}$	Interaction variable between TS and NED	TS * NED
$TS_{it}\_IOWN_{it}$	Interaction variable between TS and IOWN	TS * IOWN
$NPSTDUMTS_{it}\_NED_{it}$	Interaction variable between NPSTDUMTS and NED	NPSTDUMTS*NED
$NPSTDUMTS_{it}\_IOWN_{it}$	Interaction variable between NPSTDUMTS and IOWN	NPSTDUMTS*IOWN
$TLOSS_{it}\_NED_{it}$	Interaction variable between tax losses component and non-executive directors	TLOSS*NED
$TLOSS_{it}\_IOWN_{it}$	Interaction variable between tax losses component and institutional ownership	TLOSS*IOWN
$TPD_{it}\_NED_{it}$	Interaction variable between permanent differences component and non-executive directors	TPD*NED
$TPD_{it}\_IOWN_{it}$	Interaction variable between permanent	TPD*IOWN

	differences component and institutional ownership	
$TTD_{it}\_NED_{it}$	Interaction variable between temporary differences component and non-executive directors	TTD*NED
$TTD_{it}\_IOWN_{it}$	Interaction variable between temporary differences component and institutional ownership	TTD*IOWN
$TFTR_{it}\_NED_{it}$	Interaction variable between foreign tax rates differentials component and non-executive directors	TFTR*NED
$TFTR_{it}\_IOWN_{it}$	Interaction variable between foreign tax rates differentials component and institutional ownership	TFTR*IOWN
$TUNC_{it}\_NED_{it}$	Interaction variable between unclassified reconciling items and non-executive directors	TUNC*NED
$TUNC_{it}\_IOWN_{it}$	Interaction variable between unclassified reconciling items and institutional ownership	TUNC*IOWN
$NPSTDUMTLOSS_{it}\_NED_{it}$	Interaction variable between tax losses of non-persistent profit makers and NED	NPSTDUM_TLOSS*NED
$NPSTDUMTLOSS_{it}\_IOWN_{it}$	Interaction variable between tax losses of non-persistent profit makers and IOWN	NPSTDUM_TLOSS*IOWN
$NPSTDUMTPD_{it}\_NED_{it}$	Interaction variable between permanent differences of non-persistent profit makers and NED	NPSTDUM_TPD*NED

$NPSTDUMTPD_{it}\_IOWN_{it}$	Interaction variable between permanent differences of non-persistent profit makers and IOWN	NPSTDUM_TPD*IOWN
$NPSTDUMTTD_{it}\_NED_{it}$	Interaction variable between temporary differences of non-persistent profit makers and NED	NPSTDUM_TTD*NED
$NPSTDUMTTD_{it}\_IOWN_{it}$	Interaction variable between temporary differences of non-persistent profit makers and IOWN	NPSTDUM_TTD*IOWN
$NPSTDUMTFTR_{it}\_NED_{it}$	Interaction variable between foreign tax rates differentials of non-persistent profit makers and NED	NPSTDUM_TFTR*NED
$NPSTDUMTFTR_{it}\_IOWN_{it}$	Interaction variable between foreign tax rates differentials of non-persistent profit makers and IOWN	NPSTDUM_TFTR*IOWN
$NPSTDUMTUNC_{it}\_NED_{it}$	Interaction variable between unclassified items of non-persistent profit makers and NED	NPSTDUM_TUNC*NED
$NPSTDUMTUNC_{it}\_IOWN_{it}$	Interaction variable between unclassified items of non-persistent profit makers and IOWN	NPSTDUM_TUNC*IOWN
ε_{it}	Error term	-

Appendix B: Further Tests – Tabulated Results

Table B.1

Market Value Measurement Date: Firm Value and Tax Planning

	(I)	(II)	(III)
DV=$MVE_{t+6months}$/ BVE_{t-1}	**Persistent Profit-Making Companies**	**Persistent and Non-Persistent Profit-Making Companies**	**Components of Tax Saving – Persistent Profit-Making Companies**
BVE	0.9283	0.8963	0.5118
	(3.58)***	(3.47)***	(1.42)
PBT	10.1589	10.1375	9.8217
	(15.20)***	(15.76)***	(12.07)***
TS	-7.8221	-7.4116	-
	(-2.46)**	(-2.37)**	
NPSTDUMTS	-	-11.1232	-
		(-1.10)	
TLOSS	-	-	-4.5501
			(-0.55)
TPD	-	-	-15.2373
			(-2.69)***
TTD	-	-	5.6672
			(1.08)
TFTR	-	-	12.4696
			(1.30)
TUNC	-	-	-1.4348
			(-0.11)
CC	-0.2038	-0.0955	0.0786
	(-0.37)	(-0.17)	(0.12)
EM	-3.0968	-3.1836	-3.0668
	(-5.43)***	(-5.76)***	(-5.29)***
CAPINT	-0.6385	-0.6867	-0.5881
	(-3.23)***	(-3.16)***	(-2.65)***
LEV	-0.4880	-0.0141	-0.1454
	(-0.97)	(-0.03)	(-0.30)
DIV	-0.0029	-0.0020	0.0003
	(-1.34)	(-0.96)	(0.16)
FS	0.0067	0.0057	0.0065
	(3.14)***	(2.66)***	(3.15)***
Cons	-0.0713	-0.2032	0.1155
	(-0.20)	(-0.53)	(0.23)
R-squared	49.12%	47.22%	41.40%
n	444	472	405
Wald chi^2	440.60***	1222.10***	307.33***
	$16^{\#}$	$18^{\#}$	$20^{\#}$
Breusch-Pagan	88.67***	88.37***	103.26***
	$16^{\#}$	$18^{\#}$	$20^{\#}$

Figures in parentheses represent cross-section clustered Eicker-Huber-White adjusted t-statistics.
***, ** and * indicate significance at 1%, 2.5% and 5% respectively.
# indicates degree of freedom.

Table B.2

Market Value Measurement Date: Firm Value, Tax Planning and Corporate Governance

	(I)	(II)	(III)	(IV)
DV=$MVE_{t+6months}$/ BVE_{t-1}	**Persistent Profit-Making Companies**	**Persistent and Non-Persistent Profit-Making Companies**	**Components of Tax Saving – Persistent Profit-Making Companies**	**Components of Tax Saving – Persistent Profit-Making Companies**
BVE	0.9566	0.9130	0.5353	0.5167
	(3.65)***	(3.50)***	(1.45)	(1.34)
PBT	10.1558	10.1094	9.7701	9.7124
	(14.93)***	(15.52)***	(11.85)***	(11.65)***
TS	-8.2341	-7.5705	-	-
	(-2.56)**	(-2.41)**		
NED	0.0066	0.0018	0.0037	0.0028
	(1.27)	(0.35)	(0.71)	(0.52)
IOWN	-0.0047	-0.0039	-0.0044	-0.0020
	(-1.12)	(-0.94)	(-0.97)	(-0.48)
NPSTDUMTS	-	-11.8621	-	-
		(-1.13)		
TLOSS	-	-	-5.3667	41.6197
			(-0.66)	(2.56)***
TPD	-	-	-15.4198	-6.9980
			(-2.80)***	(-0.53)
TTD	-	-	5.7461	11.1559
			(1.10)	(0.43)
TFTR	-	-	11.8938	33.4310
			(1.26)	(0.78)
TUNC	-	-	-3.1594	-33.7841
			(-0.26)	(-0.36)
TLOSS_NED^	-	-	-	0.0347
				(0.07)
TLOSS_IOWN	-	-	-	-1.3957
				(-3.46)***
TPD_NED^	-	-	-	-0.20373
				(-0.37)
TPD_IOWN	-	-	-	-0.3215
				(-0.91)
TTD_NED	-	-	-	0.0414
				(0.10)
TTD_IOWN	-	-	-	-0.3969
				(-1.09)
TFTR_NED	-	-	-	0.5819
				(0.86)
TFTR_IOWN	-	-	-	-1.5242
				(-2.72)***
TUNC_NED	-	-	-	1.1385
				(0.91)
TUNC_IOWN	-	-	-	-1.2606
				(-2.50)**
CC	-0.2730	-0.1333	0.0448	0.2398
	(-0.49)	(-0.24)	(0.07)	(0.35)
EM	-3.0904	-3.1863	-3.0981	-3.0443
	(-5.31)***	(-5.66)***	(-5.23)***	(-5.34)***

CAPINT	-0.6284	-0.6679	-0.5970	-0.6217
	(-3.23)***	(-3.08)***	(-2.71)***	(-2.92)***
LEV	-0.6491	-0.0910	-0.2546	-0.1731
	(-1.28)	(-0.19)	(-0.52)	(-0.35)
DIV	-0.0029	-0.0021	0.0004	0.0004
	(-1.35)	(-1.00)	(0.17)	(0.21)
FS	0.0063	0.0056	0.0064	0.0056
	(2.93)***	(2.59)***	(2.95)***	(2.90)***
Cons	-0.2902	-0.1733	0.0536	0.0293
	(-0.63)	(-0.37)	(0.10)	(0.05)
R-squared	49.80%	47.77%	42.16%	44.49%
n	444	472	405	405
Wald chi^2	427.40***	992.23***	321.09***	587.54
	$18^{\#}$	$20^{\#}$	$22^{\#}$	$32^{\#}$
Breusch-Pagan	89.23***	89.53***	103.91***	110.81***
	$18^{\#}$	$20^{\#}$	$22^{\#}$	$32^{\#}$

Figures in parentheses represent cross-section clustered Eicker-Huber-White adjusted t-statistics.
***, ** and * indicate significance at 1%, 2.5% and 5% respectively.
# indicates degree of freedom.
^ indicates centred variable.

Table B.3

Choice of Deflator: Firm Value and Tax Planning – Persistent Profit-Making Companies

	(I)	**(II)**	**(III)**
	Number of Shares (DV=$MVE_{t+3months}$/ Number of shares)	**Opening Market Value (DV=$MVE_{t+3months}$/ Opening market value)**	**Sales (DV= $MVE_{t+3months}$/ Sales)**
BVE	0.4395	0.0473	0.7740
	(2.00)**	(0.64)	(3.13)***
PBT	7.3650	4.3187	7.1451
	(8.40)***	(10.32)***	(6.81)***
TS	1.5773	-2.6808	-11.0318
	(0.40)	(-1.83)*	(-3.47)***
CC	-0.7497	0.9562	1.2564
	(-1.94)*	(3.55)***	(1.27)
EM	-1.5091	-1.4099	-3.7930
	(-2.54)**	(-4.26)***	(-3.48)***
CAPINT	-0.7497	-0.1902	-0.4106
	(-1.94)*	(-3.74)***	(-3.85)***
LEV	-0.1957	-0.1740	-0.1720
	(-0.18)	(-1.57)	(-0.46)
DIV	0.0043	0.0001	0.0011
	(1.43)	(0.14)	(1.20)
FS	0.0114	0.0009	0.0030
	(2.75)***	(2.14)**	(2.22)**
Cons	-0.0836	0.7534	0.3234
	(-0.33)	(11.09)***	(1.59)
R-squared	36.53%	31.55%	38.41%
n	444	444	444
Wald chi^2	1123.21***	241.26***	1750.48***
	$16^{\#}$	$16^{\#}$	$16^{\#}$
Breusch-Pagan	107.20***	25.83*	80.86***
	$16^{\#}$	$16^{\#}$	$16^{\#}$

Figures in parentheses represent cross-section clustered Eicker-Huber-White adjusted t-statistics.
***, ** and * indicate significance at 1%, 2.5% and 5% respectively.
# indicates degree of freedom.

Table B.4

Choice of Deflator: Firm Value, Tax Planning and Corporate Governance – Persistent Profit-Making Companies

	(I)	(II)	(III)
	Number of Shares (DV=$MVE_{t+3months}$/ Number of shares)	**Opening Market Value (DV=$MVE_{t+3months}$/ Opening market value)**	**Sales (DV= $MVE_{t+3months}$/ Sales)**
BVE	0.4496	0.0585	0.7941
	(2.03)*	(0.83)	(3.20)***
PBT	7.2808	4.4152	7.0747
	(8.33)***	(10.32)***	(6.73)***
TS	1.6296	-2.8426	-11.0393
	(0.41)	(-1.91)*	(-3.52)***
NED	0.0214	0.0016	0.0047
	(2.06)*	(1.35)	(1.83)*
IOWN	-0.0106	0.0001	-0.0040
	(-1.71)*	(0.11)	(-1.97)*
CC	-0.4295	0.9258	1.1952
	(-0.83)	(3.45)***	(1.26)
EM	-1.5040	-1.4044	-3.8069
	(-2.55)**	(-4.21)***	(-3.46)***
CAPINT	-0.7784	-0.1933	-0.4100
	(-2.03)**	(-3.91)***	(-3.92)***
LEV	-0.6549	-0.1995	-0.2735
	(-0.59)	(-1.75)*	(-0.73)
DIV	0.0045	0.0001	0.0011
	(1.49)	(0.21)	(1.26)
FS	0.0103	0.0008	0.0029
	(2.43)**	(1.83)*	(2.07)**
Cons	-0.8469	0.6550	0.2056
	(-1.31)	(6.64)***	(0.78)
R-squared	38.19%	31.97%	40.04%
n	444	444	444
Wald chi^2	1220.07***	229.87***	1737.70***
	$18^{\#}$	$18^{\#}$	$18^{\#}$
Breusch-Pagan	108.38***	28.10*	82.21***
	$18^{\#}$	$18^{\#}$	$18^{\#}$

Figures in parentheses represent cross-section clustered Eicker-Huber-White adjusted t-statistics.
***, ** and * indicate significance at 1%, 2.5% and 5% respectively.
# indicates degree of freedom.

Table B.5

Choice of Deflator: Firm Value and Tax Planning – Persistent and Non-Persistent Profit-Making Companies

	(I)	(II)	(III)
	Number of Shares (DV=$MVE_{t+3months}$/ Number of shares)	**Opening Market Value (DV=$MVE_{t+3months}$/ Opening market value)**	**Sales (DV= $MVE_{t+3months}$/ Sales)**
BVE	0.3345	0.0577	0.0007
	(1.46)	(0.98)	(2.94)***
PBT	8.3494	4.4598	0.0079
	(7.73)***	(11.09)***	(7.71)***
TS	-2.0478	-3.0200	-0.0119
	(-0.44)	(-1.97)**	(-3.65)***
NPSTDUMTS	-28.4100	-11.5456	-0.0020
	(-3.14)***	(-2.48)**	(-0.50)
CC	-0.2247	0.9901	0.0013
	(-0.34)	(3.34)***	(1.37)
EM	-1.8169	-1.3895	-0.0042
	(-3.00)***	(-6.25)***	(-3.81)***
CAPINT	-0.9035	-0.1635	-0.0004
	(-2.23)**	(-2.55)**	(-3.59)***
LEV	0.3623	-0.0465	-0.0001
	(0.32)	(-0.40)	(-0.23)
DIV	0.0048	0.0003	0.0001
	(1.55)	(0.41)	(1.45)
FS	0.0118	0.0008	0.0001
	(2.97)***	(1.78)*	(2.03)**
Cons	-0.1975	0.7284	0.0002
	(-0.77)	(10.38)***	(1.23)
R-squared	41.60%	33.01%	36.49%
n	472	472	472
Wald chi^2	990.97***	206.62***	735.93***
	$18^{\#}$	$18^{\#}$	$18^{\#}$
Breusch-Pagan	134.73***	24.49	73.38***
	$18^{\#}$	$18^{\#}$	$18^{\#}$

Figures in parentheses of Column I and Column III represent cross-section clustered Eicker-Huber-White adjusted t-statistics. Results reported in Column II are based on unadjusted t-statistics as the tests indicate no significant heteroscedasticity.

***, ** and * indicate significance at 1%, 2.5% and 5% respectively.

# indicates degree of freedom.

Table B.6

Choice of Deflator: Firm Value, Tax Planning and Corporate Governance – Persistent and Non-Persistent Profit-Making Companies

	(I)	(II)	(III)
	Number of Shares (DV=$MVE_{t+3months}$/ Number of shares)	**Opening Market Value (DV=$MVE_{t+3months}$/ Opening market value)**	**Sales (DV= $MVE_{t+3months}$/ Sales)**
BVE	0.3437	0.0656	0.7426
	(1.49)	(1.09)	(3.00)***
PBT	8.2634	4.5024	7.7983
	(7.65)***	(11.01)***	(7.56)***
TS	-2.0239	-3.0802	-11.8221
	(-0.43)	(-1.98)**	(-3.68)***
NED	0.0165	0.0004	0.0025
	(1.68)*	(0.31)	(1.06)
IOWN	-0.0084	-0.0002	-0.0041
	(-1.41)	(-0.23)	(-2.08)**
NPSTDUMTS	-29.4820	-11.6092	-3.0583
	(-3.29)***	(-2.45)**	(-0.74)
CC	-0.2614	0.9718	1.2615
	(-0.41)	(3.26)***	(1.37)
EM	-1.7880	-1.3838	-4.2191
	(-2.95)***	(-6.17)***	(-3.79)***
CAPINT	-0.8811	-0.1611	-0.3983
	(-2.17)**	(-2.47)**	(-3.54)***
LEV	-0.0033	-0.0527	-0.1543
	(-0.00)	(-0.44)	(-0.45)
DIV	0.0048	0.0003	0.0013
	(1.54)	(0.42)	(1.43)
FS	0.0109	0.0008	0.0026
	(2.67)***	(1.70)*	(1.97)**
Cons	-0.7310	0.7090	0.2362
	(-1.20)	(7.00)***	(1.01)
R-squared	42.80%	33.56%	38.13%
n	472	472	472
Wald chi^2	1042.01***	205.76***	689.58***
	$20^{\#}$	$20^{\#}$	$20^{\#}$
Breusch-Pagan	137.08***	27.60	74.13***
	$20^{\#}$	$20^{\#}$	$20^{\#}$

Figures in parentheses of Column I and Column III represent cross-section clustered Eicker-Huber-White adjusted t-statistics. Results reported in Column II are based on unadjusted t-statistics as the tests indicate no significant heteroscedasticity.

***, ** and * indicate significance at 1%, 2.5% and 5% respectively.

# indicates degree of freedom.

Table B.7

Choice of Deflator: Firm Value and Components of Tax Saving – Persistent Profit-Making Companies

	(I) Number of Shares (DV=$MVE_{t+3months}$/ Number of shares)	(II) Opening Market Value (DV=$MVE_{t+3months}$/ Opening market value)	(III) Sales (DV= $MVE_{t+3months}$/ Sales)
BVE	0.3504	0.0451	1.1818
	(1.53)	(0.56)	(3.80)***
PBT	7.8118	4.3535	6.4680
	(10.81)***	(9.33)***	(7.57)***
TLOSS	7.2658	-2.7016	6.7986
	(1.00)	(-0.66)	(1.43)
TPD	-4.0571	1.0593	-1.6227
	(-0.85)	(0.26)	(-0.28)
TTD	6.5065	-2.2052	11.0158
	(1.17)	(-0.70)	(2.10)**
TFTR	23.5546	7.3833	-25.5034
	(2.24)**	(1.15)	(-1.47)
TUNC	-4.1739	-3.0296	-5.0557
	(-0.32)	(-0.59)	(-0.56)
CC	-0.5322	1.0719	-0.0689
	(-0.81)	(3.62)***	(-0.10)
EM	-1.4939	-1.3973	-1.4991
	(-2.29)**	(-3.91)***	(-2.73)***
CAPINT	-0.8828	-0.1778	-0.1563
	(-1.91)*	(-3.28)***	(-1.73)*
LEV	0.2121	-0.0733	-0.0447
	(0.16)	(-0.61)	(-0.15)
DIV	0.0063	0.0005	0.0015
	(2.08)**	(0.74)	(1.72)*
FS	0.0116	0.0011	0.0026
	(2.84)***	(2.37)**	(1.96)**
Cons	-0.1897	0.7247	0.0479
	(-0.72)	(9.53)***	(0.27)
R-squared	39.70%	35.09%	40.25%
n	405	405	405
Wald chi^2	2537.68***	234.23***	1602.25***
	$20^{\#}$	$20^{\#}$	$20^{\#}$
Breusch-Pagan	103.84***	30.18*	168.92***
	$20^{\#}$	$20^{\#}$	$20^{\#}$

Figures in parentheses represent cross-section clustered Eicker-Huber-White adjusted t-statistics.
***, ** and * indicate significance at 1%, 2.5% and 5% respectively.
# indicates degree of freedom.

Table B.8

Choice of Deflator: Firm Value, Components of Tax Saving and Corporate Governance - Persistent Profit-Making Companies

	(I)	(II)	(III)
	Number of Shares (DV=$MVE_{t+3months}$/ Number of shares)	**Opening Market Value (DV=$MVE_{t+3months}$/ Opening market value)**	**Sales (DV= $MVE_{t+3months}$/ Sales)**
BVE	0.3619	0.0449	1.2264
	(1.56)	(0.57)	(3.96)***
PBT	7.7006	4.3722	6.3696
	(10.62)***	(9.18)***	(7.63)***
NED	0.0234	-0.0001	0.0054
	(2.21)**	(-0.06)	(2.05)**
IOWN	-0.0130	0.0005	-0.0059
	(-1.94)*	(0.53)	(-2.87)***
TLOSS	7.3263	-2.6076	6.7838
	(1.01)	(-0.63)	(1.37)
TPD	-4.2825	1.1068	-1.4448
	(-0.90)	(0.27)	(-0.25)
TTD	6.8358	-2.1531	11.9691
	(1.19)	(-0.68)	(2.27)**
TFTR	23.0864	7.4117	-24.1738
	(2.20)**	(1.14)	(-1.45)
TUNC	-4.8541	-2.5071	-7.4529
	(-0.39)	(-0.48)	(-0.83)
CC	-5.5659	1.0699	-0.1248
	(-0.89)	(3.56)***	(-0.20)
EM	-1.4734	-1.3827	-1.5597
	(-2.27)**	(-3.88)***	(-2.91)***
CAPINT	-0.9400	-0.1762	-0.1705
	(-2.08)**	(-3.26)***	(-1.89)*
LEV	-0.3126	-0.0672	-0.1929
	(-0.23)	(-0.54)	(-0.69)
DIV	0.0064	0.0005	0.0015
	(2.15)**	(0.77)	(1.81)*
FS	0.0101	0.0011	0.0024
	(2.42)**	(2.25)**	(1.85)*
Cons	-0.9284	0.7106	-0.0435
	(-1.45)	(6.70)***	(-0.19)
R-squared	41.47%	34.65%	43.80%
n	405	405	405
Wald chi^2	2132.80***	238.89***	1454.12***
	$22^{\#}$	$22^{\#}$	$22^{\#}$
Breusch-Pagan	106.91***	31.35*	169.58***
	$22^{\#}$	$22^{\#}$	$22^{\#}$

Figures in parentheses represent cross-section clustered Eicker-Huber-White adjusted t-statistics.
***, ** and * indicate significance at 1%, 2.5% and 5% respectively.
# indicates degree of freedom.

Table B.9

Choice of Deflator: Firm Value, Components of Tax Saving and Corporate Governance with Interaction Variables - Persistent Profit-Making Companies

	(I)	(II)	(III)
	Number of Shares (DV=$MVE_{t+3months}$/ Number of shares)	**Opening Market Value (DV=$MVE_{t+3months}$/ Opening market value)**	**Sales (DV= $MVE_{t+3months}$/ Sales)**
BVE	0.4077	0.0545	1.2465
	(1.84)*	(0.87)	(4.24)***
PBT	7.5592	4.3937	6.1252
	(11.24)***	(9.99)***	(7.78)***
NED	0.2236	-0.0002	0.0052
	(2.13)**	(-0.13)	(2.01)**
IOWN	-0.0065	0.0010	-0.0059
	(-0.92)	(0.94)	(-2.90)***
TLOSS	42.1614	20.6707	11.8920
	(2.32)**	(2.17)**	(1.15)
TPD	2.1040	-9.5247	2.8847
	(0.14)	(-1.16)	(0.28)
TTD	16.8757	-3.2542	33.4630
	(1.69)*	(-0.21)	(1.40)
TFTR	-45.2904	-1.5081	-24.2210
	(-0.81)	(-0.05)	(-0.35)
TUNC	25.8895	11.7359	9.1036
	(0.90)	(0.81)	(0.62)
TLOSS_NED	-0.4264^	0.0346^	-1.0824^
	(-0.37)	(0.08)	(-1.69)*
TLOSS_IOWN	-1.3086	-0.6752	-0.2645
	(-2.23)**	(-2.54)**	(-0.83)
TPD_NED	-0.7909^	-0.1077^	-0.2787^
	(-1.07)	(-0.33)	(-0.61)
TPD_IOWN	-0.1105	0.2507	-0.1731
	(-0.24)	(1.20)	(-0.62)
TTD_NED	0.1926^	0.4080	-0.4521
	(0.31)	(0.14)	(-1.15)
TTD_IOWN	-0.4421	-0.0598	0.0069
	(-1.32)	(-0.30)	(0.03)
TFTR_NED	1.8687	0.1239	1.2290
	(1.79)*	(0.28)	(1.15)
TFTR_IOWN	-1.4307	0.0563	-2.1234
	(-2.40)**	(0.14)	(-3.60)***
TUNC_NED	0.3391	0.2229^	-0.4176^
	(0.64)	(0.33)	(-0.49)
TUNC_IOWN	-1.3993	-0.4472	-0.4275
	(-2.26)**	(-1.10)	(-1.06)
CC	-0.7258	1.0646	0.3133
	(-1.21)	(3.55)***	(0.41)
EM	-1.4229	-1.3173	-1.3772
	(-2.27)**	(-5.52)***	(-2.92)***
CAPINT	-1.0613	-0.1780	-0.1934
	(-2.54)**	(-2.70)***	(-2.04)**
LEV	-0.1078	-0.0750	-0.2797
	(-0.08)	(-0.61)	(-1.00)
DIV	0.0058	0.0007	0.0015
	(1.91)*	(0.95)	(1.86)*

FS	0.0088	0.0010	0.0019
	(2.13)**	(2.15)**	(1.62)
Cons	-0.9682	0.6875	0.0107
	(-1.52)	(6.63)***	(0.05)
R-squared	43.84%	36.52%	49.01%
n	405	405	405
Wald chi^2	3909.48***	206.72***	1856.37***
	$32^{\#}$	$32^{\#}$	$32^{\#}$
Breusch-Pagan	118.06***	0.92	176.69***
	$32^{\#}$	$32^{\#}$	$32^{\#}$

Figures in parentheses of Column I and Column III represent cross-section clustered Eicker-Huber-White adjusted t-statistics. Results reported in Column II are based on unadjusted t-statistics as the tests indicate no significant heteroscedasticity.

***, ** and * indicate significance at 1%, 2.5% and 5% respectively.

# indicates degree of freedom.

^ indicates centred variable.

Table B.10

Firm Fixed-Effect: Firm Value and Tax Planning

	(I)	**(II)**	**(III)**
DV=MVE$_{t+3months}$/ BVE$_{t-1}$	**Persistent Profit-Making Companies**	**Persistent and Non-Persistent Profit-Making Companies**	**Components of Tax Saving – Persistent Profit-Making Companies**
BVE	1.2523	1.2362	0.9728
	(4.41)***	(4.55)***	(3.38)***
PBT	9.1020	9.0147	8.6500
	(7.04)***	(7.57)***	(6.86)***
TS	-9.4580	-9.3716	-
	(-1.98)**	(-2.19)**	
NPSTDUMTS	-	19.7116	-
		(1.13)	
TLOSS	-	-	-5.8114
			(-1.00)
TPD	-	-	-13.9747
			(-1.95)*
TTD	-	-	-1.1184
			(-0.19)
TFTR	-	-	-12.1764
			(-0.96)
TUNC	-	-	-10.8878
			(-1.22)
CC	0.0766	0.1299	0.0634
	(0.14)	(0.23)	(0.12)
EM	-2.2270	-2.2325	-1.8782
	(-3.69)***	(-3.87)***	(-3.08)***
CAPINT	0.1559	0.2719	-0.0533
	(0.20)	(0.36)	(-0.09)
LEV	-0.8857	-1.0203	-1.0015
	(-0.96)	(-1.14)	(-1.22)
DIV	-0.0006	-0.0007	0.0018
	(0.28)	(-0.37)	(0.95)
FS	-0.0018	-0.0031	-0.0011
	(-0.43)	(-0.73)	(-0.27)
Cons	-0.1911	-0.1201	-0.0488
	(-0.43)	(-0.27)	(-0.10)
R-squared	63.91%	63.50%	58.78%
n	444	472	405
F-statistic	24.80***	22.90***	6.66***
	9#	10#	13#
Breusch-Pagan	64.98***	68.39***	58.08***
	9#	10#	13#

Figures in parentheses represent cross-section clustered Eicker-Huber-White adjusted t-statistics.
***, ** and * indicate significance at 1%, 2.5% and 5% respectively.
# indicates degree of freedom.

Table B.11

Firm Fixed-Effect: Firm Value, Tax Planning and Corporate Governance

	(I)	(II)	(III)	(IV)
DV=$MVE_{t+3months}$/ BVE_{t-1}	**Persistent Profit-Making Companies**	**Persistent and Non-Persistent Profit-Making Companies**	**Components of Tax Saving – Persistent Profit-Making Companies**	**Components of Tax Saving – Persistent Profit-Making Companies**
BVE	1.3319	1.3070	0.9942	0.9966
	(4.79)***	(4.92)***	(3.37)***	(3.03)***
PBT	8.8697	8.7895	8.6520	8.5747
	(6.96)***	(7.50)***	(7.12)***	(6.97)***
TS	-8.2344	-8.0922	-	-
	(-1.77)*	(-1.95)*		
NPSTDUMTS	-	3.4235	-	-
		(0.15)		
NED	-0.0022	-0.0056	0.0290	0.0065
	(-0.23)	(-0.58)	(0.29)	(0.50)
IOWN	-0.0235	-0.0238	-0.0201	-0.0272
	(-3.73)***	(-3.77)***	(-3.36)***	(-3.61)***
TLOSS	-	-	-4.7147	10.4564
			(-0.77)	(0.86)
TPD	-	-	-13.9522	-14.9295
			(-2.09)**	(-0.98)
TTD	-	-	2.2369	-3.2351
			(0.38)	(-0.11)
TFTR	-	-	-7.0877	82.7032
			(-0.53)	(0.91)
TUNC	-	-	-10.7543	17.4809
			(-1.09)	(0.28)
TLOSS_NED^	-	-	-	-0.4506
				(-0.80)
TLOSS_IOWN	-	-	-	-0.3657
				(-0.92)
TPD_NED^	-	-	-	-0.3775
				(-0.61)
TPD_IOWN	-	-	-	0.0178
				(0.04)
TTD_NED	-	-	-	0.0822
				(0.18)
TTD_IOWN	-	-	-	0.0038
				(0.01)
TFTR_NED	-	-	-	-0.5746
				(-0.46)
TFTR_IOWN	-	-	-	-1.4814
				(-2.14)**
TUNC_NED	-	-	-	0.1102
				(0.12)
TUNC_IOWN	-	-	-	-0.8540
				(-1.32)
CC	0.0184	0.0906	0.0788	0.2000
	(0.04)	(0.18)	(0.17)	(0.39)
EM	-2.2854	-2.3051	-1.9882	-1.9895
	(-3.76)***	(-3.99)***	(-3.23)***	(-3.12)***
CAPINT	0.1989	0.2830	-0.1110	-0.3060
	(0.25)	(0.36)	(-0.16)	(-0.47)

LEV	-0.6849	-0.9047	-1.1095	-1.2936
	(-0.79)	(-1.07)	(-1.43)	(-1.76)*
DIV	0.0001	-0.0002	0.0023	0.0027
	(0.00)	(-0.12)	(1.24)	(1.42)
FS	-0.0008	-0.0020	-0.0006	-0.0003
	(-0.19)	(-0.47)	(-0.14)	(-0.07)
Cons	0.5832	0.8932	0.4026	0.2480
	(0.86)	(1.32)	(0.60)	(0.32)
R-squared	65.79%	65.45%	60.70%	62.15%
n	444	472	405	405
F-statistic	27.56***	25.47***	7.30***	6.01***
	11#	12#	15#	25#
Breusch-Pagan	65.14***	70.10***	58.77***	73.19***
	11#	12#	15#	25#

Figures in parentheses represent cross-section clustered Eicker-Huber-White adjusted t-statistics.
***, ** and * indicate significance at 1%, 2.5% and 5% respectively.
# indicates degree of freedom.
^ indicates centred variable.

Table B.12

Tobin's Q and Tax Planning

	(I)	(II)	(III)
DV=Tobin's Q	**Persistent Profit-Making Companies**	**Persistent and Non-Persistent Profit-Making Companies**	**Components of Tax Saving – Persistent Profit-Making Companies**
PBT	8.3508	8.6052	8.3423
	(7.79)***	(8.97)***	(7.67)***
TS	-5.0502	-5.8674	-
	(-2.22)**	(-2.56)***	
NPSTDUMTS	-	-8.1942	-
		(-1.04)	
TLOSS	-	-	4.0909
			(0.94)
TPD	-	-	-5.9914
			(-1.15)
TTD	-	-	3.7909
			(0.91)
TFTR	-	-	8.4308
			(0.85)
TUNC	-	-	2.000
			(0.31)
CC	0.1346	0.3562	0.3864
	(0.22)	(0.57)	(0.59)
EM	-1.825	-1.9735	-1.5826
	(-3.56)***	(-3.86)***	(-3.13)***
CAPINT	-0.2315	-0.2302	-0.1845
	(-3.18)***	(-2.85)***	(-2.64)***
LEV	-0.0928	0.0212	0.1208
	(-0.53)	(0.12)	(0.72)
DIV	0.0005	0.0006	0.0014
	(0.68)	(0.77)	(1.88)*
FS	0.0025	0.0022	0.0023
	(2.89)***	(2.54)**	(2.81)***
Cons	1.0485	0.9607	0.9111
	(8.06)***	(7.19)***	(6.78)***
R-squared	18.38%	18.44%	22.43%
n	444	472	405
Wald chi^2	227.12***	284.15***	242.16***
	15#	17#	19#
Breusch-Pagan	93.31***	105.04***	77.73***
	15#	17#	19#

Figures in parentheses represent cross-section clustered Eicker-Huber-White adjusted t-statistics.
***, ** and * indicate significance at 1%, 2.5% and 5% respectively.
# indicates degree of freedom.

Table B.13

Tobin's Q, Tax Planning and Corporate Governance

	(I)	(II)	(III)	(IV)
DV=Tobin's Q	**Persistent Profit-Making Companies**	**Persistent and Non-Persistent Profit-Making Companies**	**Components of Tax Saving – Persistent Profit-Making Companies**	**Components of Tax Saving – Persistent Profit-Making Companies**
PBT	8.3709	8.5916	8.3222	8.0717
	(7.66)***	(8.81)***	(7.44)***	(6.97)***
TS	-5.4257	-6.1391	-	-
	(-2.37)**	(-2.70)***		
NPSTDUMTS	-	-9.7617	-	-
		(-1.19)		
NED	0.0028	0.0015	0.0028	0.0028
	(1.41)	(0.73)	(1.39)	(1.22)
IOWN	-0.0028	-0.0033	-0.0030	-0.0022
	(-1.91)*	(-2.19)**	(-1.91)*	(-1.21)
TLOSS	-	-	3.6169	16.2603
			(0.86)	(1.32)
TPD	-	-	-6.4144	-12.2592
			(-1.26)	(-0.44)
TTD	-	-	4.2379	8.1372
			(1.04)	(0.71)
TFTR	-	-	7.8003	19.8320
			(0.79)	(0.41)
TUNC	-	-	-0.9491	15.9653
			(-0.15)	(0.99)
TLOSS_NED^	-	-	-	-0.2549
				(-0.49)
TLOSS_IOWN	-	-	-	-0.3649
				(-0.95)
TPD_NED	-	-	-	-0.1292
				(-0.26)
TPD_IOWN	-	-	-	0.3576
				(0.78)
TTD_NED^	-	-	-	0.1449
				(0.33)
TTD_IOWN	-	-	-	-0.0977
				(-0.29)
TFTR_NED	-	-	-	0.4238
				(0.57)
TFTR_IOWN	-	-	-	-1.0177
				(-1.76)*
TUNC_NED^	-	-	-	0.0829
				(0.11)
TUNC_IOWN	-	-	-	-0.4986
				(-1.26)
CC	0.1177	0.3533	0.3757	0.5223
	(0.21)	(0.63)	(0.65)	(0.93)
EM	-1.8154	-1.9857	-1.6004	-1.5606
	(-3.49)***	(-3.84)***	(-3.13)***	(-2.98)***
CAPINT	-0.2267	-0.2179	-0.1880	-0.2032
	(-3.07)***	(-2.65)***	(-2.71)***	(-2.82)***
LEV	-0.1589	-0.0341	0.0456	0.0366
	(-0.91)	(-0.19)	(0.27)	(0.22)

DIV	0.0005	0.0005	0.0014	0.0014
	(0.71)	(0.72)	(1.90)*	(1.93)*
FS	0.0024	0.0021	0.0022	0.0017
	(2.71)***	(2.48)**	(2.64)***	(2.19)**
Cons	0.9947	1.000	0.8668	0.8808
	(5.45)***	(2.76)***	(2.05)***	(4.89)***
R-squared	20.68%	20.84%	24.52%	26.87%
n	444	472	405	405
Wald chi^2	199.99***	268.11***	319.09***	425.29***
	$17^{\#}$	$19^{\#}$	$21^{\#}$	$31^{\#}$
Breusch-Pagan	94.47***	105.32***	79.54***	95.35***
	$17^{\#}$	$19^{\#}$	$21^{\#}$	$31^{\#}$

Figures in parentheses represent cross-section clustered Eicker-Huber-White adjusted t-statistics.
***, ** and * indicate significance at 1%, 2.5% and 5% respectively.
# indicates degree of freedom.
^ indicates centred variable.

Table B.14

Potential Effects of Tax Planning-Related Factors: Market Value of Equity and Tax Planning

	(I)	(II)	(III)
DV=$MVE_{t+3months}$/ BVE_{t-1}	**Persistent Profit-Making Companies**	**Persistent and Non-Persistent Profit-Making Companies**	**Components of Tax Saving – Persistent Profit-Making Companies**
BVE	1.0979	1.0257	0.6982
	(4.53)***	(4.40)***	(2.59)***
PBT	10.0736	10.1056	9.6650
	(16.84)***	(18.00)***	(14.34)***
TS	-9.5025	-9.0177	-
	(-2.96)***	(-2.94)***	
NPSTDUMTS	-	-13.2592	-
		(-1.68)*	
TLOSS	-	-	-0.1621
			(-0.03)
TPD	-	-	-12.1023
			(-1.84)*
TTD	-	-	7.5070
			(1.52)
TFTR	-	-	3.4746
			(0.42)
TUNC	-	-	-2.8043
			(-0.25)
CC	0.2145	0.4027	0.3906
	(0.45)	(0.85)	(0.83)
EM	-2.6499	-2.7548	-2.4189
	(-6.00)***	(-6.57)***	(-5.29)***
DIV	-0.0006	-0.0003	0.0022
	(-0.36)	(-0.18)	(1.25)
Cons	0.0679	-0.0586	0.2039
	(0.19)	(-0.16)	(0.52)
R-squared	63.64%	62.86%	57.65%
n	444	472	405
Wald chi^2	491.81***	547.47***	310.14***
	$13^{\#}$	$15^{\#}$	$17^{\#}$
Breusch-Pagan	78.95***	80.75**	76.09***
	$13^{\#}$	$15^{\#}$	$17^{\#}$

Figures in parentheses represent cross-section clustered Eicker-Huber-White adjusted t-statistics.
***, ** and * indicate significance at 1%, 2.5% and 5% respectively.
# indicates degree of freedom.

Table B.15

Potential Effects of Tax Planning-Related Factors: Market Value of Equity, Tax Planning and Corporate Governance

	(I)	(II)	(III)	(IV)
DV=$MVE_{t+3months}$/ BVE_{t-1}	**Persistent Profit-Making Companies**	**Persistent and Non-Persistent Profit-Making Companies**	**Components of Tax Saving – Persistent Profit-Making Companies**	**Components of Tax Saving – Persistent Profit-Making Companies**
BVE	1.1346	1.0564	0.7333	0.7143
	(4.68)***	(4.50)***	(2.59)***	(2.48)***
PBT	10.0788	10.0674	9.6111	9.6301
	(16.72)***	(17.76)***	(14.17)***	(14.40)***
TS	-10.0404	-9.3222	-	-
	(-3.14)***	(-3.07)***		
NPSTDUMTS	-	-14.7436	-	-
		(-1.75)*		
NED	0.0091	0.0055	0.0095	0.0094
	(1.70)*	(1.00)	(1.88)*	(1.88)*
IOWN	-0.0073	-0.0072	-0.0081	-0.0048
	(-1.86)*	(-1.88)*	(-2.02)**	(-1.23)
TLOSS	-	-	-1.3063	28.6994
			(-0.22)	(2.08)**
TPD	-	-	-12.4622	-12.6910
			(-1.97)	(-0.93)
TTD	-	-	7.7668	24.5286
			(1.62)	(0.94)
TFTR	-	-	2.5688	13.3405
			(0.31)	(0.30)
TUNC	-	-	-5.7410	2.4211
			(-0.55)	(0.04)
TLOSS_NED^	-	-	-	-0.1566
				(-0.36)
TLOSS_IOWN	-	-	-	-0.8954
				(-2.44)**
TPD_NED^	-	-	-	-0.3768
				(-0.72)
TPD_IOWN	-	-	-	-0.0218
				(-0.06)
TTD_NED	-	-	-	-0.0895
				(-0.22)
TTD_IOWN	-	-	-	-0.4122
				(-1.22)
TFTR_NED	-	-	-	0.4591
				(0.67)
TFTR_IOWN	-	-	-	-1.0198
				(-1.97)**
TUNC_NED	-	-	-	0.4285
				(0.49)
TUNC_IOWN	-	-	-	-1.0285
				(-2.20)**
CC	0.1229	0.3334	0.3287	0.4911
	(0.26)	(0.71)	(0.72)	(1.01)
EM	-2.6239	-2.7466	-2.4338	-2.3604
	(-5.81)***	(-6.41)***	(-5.14)***	(4.90)***

DIV	-0.0007	-0.0004	0.0023	0.0021
	(-0.38)	(-0.23)	(1.30)	(1.19)
Cons	-0.2325	-0.1278	-0.0736	-0.1852
	(-0.50)	(-0.28)	(-0.16)	(-0.40)
R-squared	64.49%	63.79%	58.98%	59.71%
n	444	472	405	405
Wald chi^2	496.10***	547.90***	329.80***	443.50***
	15#	17#	19#	29#
Breusch-Pagan	81.82***	84.12***	75.18***	85.83***
	15#	17#	19#	29#

Figures in parentheses represent cross-section clustered Eicker-Huber-White adjusted t-statistics.
***, ** and * indicate significance at 1%, 2.5% and 5% respectively.
# indicates degree of freedom.
^ indicates centred variable.

Table B.16

Potential Effects of Tax Planning-Related Factors: Tobin's Q and Tax Planning

	(I)	(II)	(III)
DV=Tobin's Q	**Persistent Profit-Making Companies**	**Persistent and Non-Persistent Profit-Making Companies**	**Components of Tax Saving – Persistent Profit-Making Companies**
PBT	8.4483	8.6364	8.2553
	(8.14)***	(9.41)***	(7.75)***
TS	-5.2056	-5.9490	-
	(-2.32)**	(-2.63)***	
NPSTDUMTS	-	-6.3324	-
		(-0.87)	
TLOSS	-	-	4.5165
			(1.05)
TPD	-	-	-5.9151
			(-1.14)
TTD	-	-	4.5251
			(1.10)
TFTR	-	-	6.3175
			(0.59)
TUNC	-	-	3.4216
			(0.48)
CC	0.2542	0.4500	0.4187
	(0.43)	(0.75)	(0.67)
EM	-1.6318	-1.8007	-1.4258
	(-3.21)***	(-3.56)***	(-2.89)***
DIV	0.0003	0.0004	0.0013
	(0.43)	(0.56)	(1.74)*
Cons	1.1481	1.0552	1.0241
	(9.40)***	(8.35)***	(7.84)***
R-squared	18.74%	19.05%	23.04%
n	444	472	405
Wald chi^2	180.96***	216.90***	268.59***
	12#	14#	16#
Breusch-Pagan	61364***	106.39**	80.98***
	12#	14#	16#

Figures in parentheses represent cross-section clustered Eicker-Huber-White adjusted t-statistics.
***, ** and * indicate significance at 1%, 2.5% and 5% respectively.
# indicates degree of freedom.

Table B.17

Potential Effects of Tax Planning-Related Factors: Tobin's Q, Tax Planning and Corporate Governance

	(I)	(II)	(III)	(IV)
DV=Tobin's Q	**Persistent Profit-Making Companies**	**Persistent and Non-Persistent Profit-Making Companies**	**Components of Tax Saving – Persistent Profit-Making Companies**	**Components of Tax Saving – Persistent Profit-Making Companies**
PBT	8.5127	8.6588	8.3064	8.0673
	(8.03)***	(9.26)***	(7.63)***	(7.18)***
TS	-5.7304	-6.3274	-	-
	(-2.55)**	(-2.83)***		
NPSTDUMTS	-	-7.8264	-	-
		(-1.03)		
NED	0.0034	0.0023	0.0038	0.0035
	(1.63)	(1.09)	(1.86)*	(1.59)
IOWN	-0.0028	-0.0033	-0.0030	-0.0022
	(-1.95)*	(-2.26)**	(-1.92)*	(-1.21)
TLOSS	-	-	3.8658	16.2757
			(0.93)	(1.31)
TPD	-	-	-6.5768	-11.8392
			(-1.29)	(-0.41)
TTD	-	-	4.8685	9.7404
			(1.24)	(0.85)
TFTR	-	-	5.7604	21.7135
			(0.54)	(0.43)
TUNC	-	-	-0.1220	17.1055
			(-0.02)	(1.01)
TLOSS_NED^	-	-	-	-0.2600
				(-0.51)
TLOSS_IOWN	-	-	-	-0.3425
				(-0.90)
TPD_NED	-	-	-	-0.1389
				(-0.28)
TPD_IOWN	-	-	-	0.3560
				(0.78)
TTD_NED^	-	-	-	0.2511
				(0.58)
TTD_IOWN	-	-	-	-0.1146
				(-0.35)
TFTR_NED	-	-	-	0.4389
				(0.56)
TFTR_IOWN	-	-	-	-1.1409
				(-1.88)*
TUNC_NED^	-	-	-	-0.0023
				(-0.00)
TUNC_IOWN	-	-	-	-0.5046
				(-1.25)
CC	0.2306	0.4396	0.4099	0.5725
	(0.44)	(0.83)	(0.75)	(1.06)
EM	-1.6197	-1.8176	-1.4374	-1.4103
	(-3.11)***	(-3.52)***	(-2.84)***	(-2.75)***

DIV	0.0003	0.0004	0.0013	0.0013
	(0.45)	(0.51)	(1.77)*	(1.81)*
Cons	1.0538	1.0488	0.9156	0.9177
	(5.57)***	(5.89)***	(5.12)***	(5.00)***
R-squared	20.95%	21.40%	25.01%	27.42%
n	444	472	405	405
Wald chi^2	159.96***	200.54***	325.57***	424.74***
	$14^{\#}$	$16^{\#}$	$18^{\#}$	$28^{\#}$
Breusch-Pagan	98.71***	107.86***	83.09***	97.02***
	$14^{\#}$	$16^{\#}$	$18^{\#}$	$28^{\#}$

Figures in parentheses represent cross-section clustered Eicker-Huber-White adjusted t-statistics.
***, ** and * indicate significance at 1%, 2.5% and 5% respectively.
# indicates degree of freedom.
^ indicates centred variable.

Table B.18

Firm Value and Tax Planning of Persistent Profit-Making Companies: 2SLS

Dependent Variable (DV) = $MVE_{t+3months}/BVE_{t-1}$	**Persistent Profit-Making Companies**
BVE	0.5840
	(1.60)
PBT	10.3617
	(17.87)***
TS	-8.7792
	(-1.44)
CC	-0.3726
	(-0.53)
EM	-3.0447
	(-7.09)***
CAPINT	-0.7373
	(-2.45)**
LEV	-0.2828
	(-0.51)
DIV	-0.0002
	(-0.07)
FS	0.0054
	(2.56)**
Cons	0.3040
	(0.60)
R-squared (centred)	72.86%
R-squared (un-centred)	92.52%
n	444
F-statistic	46.56***
	$16^{\#}$

***, ** and * indicate significance at 1%, 2.5% and 5% respectively.
# indicates degree of freedom.

Table B.19

Reclassification of Unclassified Items – Persistent Profit-Making Companies

	(I)	(II)	(III)	(IV)
DV=$MVE_{t+3months}/BVE_{t-1}$	**TUNC as TPD**	**TUNC as TTD**	**TUNC as TPD**	**TUNC as TTD**
BVE	0.6945	0.6823	0.7291	0.7169
	(2.50)**	(2.56)**	(2.54)**	(2.60)***
PBT	9.6029	9.6300	9.5257	9.5555
	(14.42)***	(14.35)***	(14.13)***	(14.05)***
TLOSS	-0.4901	-2.1415	-1.6637	-3.5058
	(-0.08)	(-0.36)	(-0.29)	(-0.61)
TPD	-	-12.6433	-	-13.0309
		(-1.90)*		(-2.03)**
TPDUNC	-10.2204	-	-11.0061	-
	(-1.76)*		(-1.97)**	
TTD	6.1396	-	6.6674	-
	(1.17)		(1.31)	
TTDUNC	-	4.5407	-	4.3322
		(1.04)		(1.01)
TFTR	6.5811	6.1774	5.7470	5.4379
	(0.79)	(0.70)	(0.71)	(0.63)
NED	-	-	0.0077	0.0068
			(1.48)	(1.32)
IOWN	-	-	-0.0086	-0.0076
			(-2.15)**	(-1.89)*
CC	0.3650	0.3758	0.3170	0.3278
	(0.74)	(0.79)	(0.67)	(0.72)
EM	-2.5419	-2.5558	-2.5813	-2.6001
	(-5.56)***	(-5.59)***	(-5.46)***	(-5.51)***
CAPINT	-0.4690	-0.4521	-0.4828	-0.4678
	(-2.38)**	(-2.34)**	(-2.50)**	(-2.47)**
LEV	-0.0093	-0.0765	-0.2355	-0.2752
	(-0.02)	(-0.19)	(-0.57)	(-0.66)
DIV	0.0024	0.0025	0.0026	0.0025
	(1.37)	(1.40)	(1.46)	(1.44)
FS	0.0062	-2.5558	0.0059	0.0060
	(3.18)***	(-5.59)***	(2.94)***	(3.04)***
Cons	-0.0548	-0.0451	-0.1953	-0.1691
	(-0.14)	(-0.12)	(-0.43)	(-0.38)
R-squared	57.37%	57.22%	58.88%	58.53%
n	405	405	405	405
Wald chi^2	347.17***	347.27***	360.99***	355.97***
	$19^{\#}$	$19^{\#}$	$21^{\#}$	$21^{\#}$
Breusch-Pagan	75.08***	77.17***	77.28***	77.97***
	$19^{\#}$	$19^{\#}$	$21^{\#}$	$21^{\#}$

Figures in parentheses represent cross-section clustered Eicker-Huber-White adjusted t-statistics.
***, ** and * indicate significance at 1%, 2.5% and 5% respectively.
# indicates degree of freedom.

Table B.20

Reclassification of Unclassified Items with Corporate Governance Interaction Variables – Persistent Profit-Making Companies

	(I)	(II)
DV=$MVE_{t+3months}/BVE_{t-1}$	**TUNC as TPD**	**TUNC as TTD**
BVE	0.7103	0.6901
	(2.29)**	(2.36)**
PBT	9.5263	9.5785
	(13.93)***	(14.18)***
TLOSS	29.9363	31.6662
	(2.28)**	(2.66)***
TPD	-	-10.1712
		(-0.74)
TPDUNC	-4.5914	-
	(-0.37)	
TTD	25.6560	-
	(0.98)	
TTDUNC	-	19.9973
		(2.43)**
TFTR	11.2306	11.5518
	(0.27)	(0.29)
TLOSS_NED	-0.0886^	-0.2200^
	(-0.22)	(-0.56)
TLOSS_IOWN	-0.9504	-1.0509
	(-2.78)***	(-3.34)***
TPD_NED	-	-0.3959^
		(-0.72)
TPD_IOWN	-	-0.1153
		(-0.29)
TPDUNC_NED	-0.1540^	-
	(-0.37)	
TPDUNC_IOWN	-0.2210	-
	(-0.69)	
TTD_NED	-0.1506	-
	(-0.37)	
TTD_IOWN	-0.3724	-
	(-1.13)	
TTDUNC_NED	-	-0.1574^
		(-0.49)
TTDUNC_IOWN	-	-0.5075
		(-2.15)**
TFTR_NED	0.4169	0.4318
	(0.63)	(0.65)
TFTR_IOWN	-0.8201	-0.8561
	(-1.72)*	(-1.77)*
NED	0.0075	0.0062
	(1.46)	(1.04)
IOWN	-0.0074	-0.0051
	(-1.91)*	(-1.30)
CC	0.4356	0.4855
	(0.89)	(1.40)
EM	-2.5477	-2.5295
	(-5.27)***	(-5.17)***
CAPINT	-0.4987	-0.4905
	(-2.56)**	(-2.54)**
LEV	-0.2114	-0.2372
	(-0.49)	(-0.56)

DIV	0.0023	0.0023
	(1.31)	(1.40)
FS	0.0055	0.0054
	(2.78)***	(2.84)***
Cons	-0.2197	-0.1987
	(-0.48)	(-0.40)
R-squared	59.27%	59.21%
n	405	405
Wald chi^2	440.02***	472.24***
	$29^{\#}$	$29^{\#}$
Breusch-Pagan	87.51***	94.11***
	$29^{\#}$	$29^{\#}$

Figures in parentheses represent cross-section clustered Eicker-Huber-White adjusted t-statistics.
***, ** and * indicate significance at 1%, 2.5% and 5% respectively.
# indicates degree of freedom.
^ indicates centred variable.

Table B.21

Annual Regressions: Firm Value and Tax Planning – Persistent Profit- Making Companies

	(I)	**(II)**	**(III)**
$DV=MVE_{t+3months}/BVE_{t-1}$	**2005**	**2006**	**2007**
BVE	1.0983	1.6337	-0.9939
	(4.93)***	(3.89)***	(-2.10)**
PBT	10.9880	10.6205	9.7832
	(15.76)***	(15.25)***	(10.10)***
TS	-9.1206	-8.7871	1.4302
	(-1.94)*	(-2.03)**	(0.35)
CC	0.3557	-1.7190	2.0719
	(0.62)	(-2.04)**	(3.74)***
EM	-2.5500	-2.8017	-3.1506
	(-3.68)***	(-4.97)***	(-4.75)***
CAPINT	-0.3361	-0.6415	-0.9161
	(-1.24)	(-2.35)**	(-2.76)***
LEV	0.0286	-0.1975	-0.7309
	(0.05)	(-0.31)	(-1.06)
DIV	-0.0020	-0.0013	0.0034
	(-0.63)	(-0.35)	(0.77)
FS	0.0093	0.0071	0.0024
	(3.36)***	(2.86)***	(1.02)
Cons	-0.1448	-0.6152	1.6665
	(-0.37)	(-1.21)	(3.22)***
R-squared	83.88%	82.75%	70.47%
n	148	148	148
F-statistic	125.81***	34.48***	27.30***
	$16^{\#}$	$16^{\#}$	$16^{\#}$

Figures in parentheses represent cross-section clustered Eicker-Huber-White adjusted t-statistics.
***, ** and * indicate significance at 1%, 2.5% and 5% respectively.
# indicates degree of freedom.

Table B.22

Annual Regressions: Firm Value, Tax Planning and Corporate Governance – Persistent Profit-Making Companies

	(I)	(II)	(III)
DV=$MVE_{t+3months}/BVE_{t-1}$	**2005**	**2006**	**2007**
BVE	1.1081	1.6532	-0.9579
	(4.70)***	(3.84)***	(-1.96)*
PBT	11.0321	10.7328	9.7254
	(15.63)***	(15.80)***	(9.90)***
TS	-9.1429	-9.3589	1.1381
	(-1.85)*	(-2.19)**	(0.27)
NED	0.0063	0.0102	0.0072
	(0.80)	(1.45)	(0.98)
IOWN	0.0023	-0.0056	0.0011
	(0.44)	(-1.01)	(0.16)
CC	0.3520	-1.6043	1.9752
	(0.58)	(-1.96)*	(3.26)***
EM	-2.5702	-2.6947	-3.0847
	(-3.76)***	(-4.84)***	(-4.24)***
CAPINT	-0.3467	-0.5933	-0.9523
	(-1.31)	(-2.27)**	(-2.87)***
LEV	-0.0615	-0.4833	-0.8706
	(-0.10)	(-0.78)	(-1.26)
DIV	-0.0016	-0.0021	0.0035
	(-0.49)	(-0.56)	(0.82)
FS	0.0083	0.0067	0.0020
	(2.74)***	(2.63)***	(0.81)
Cons	-0.5327	-1.0086	1.2065
	(-0.90)	(-1.59)	(1.94)*
R-squared	84.02%	83.10%	70.70%
n	148	148	148
F-statistic	103.42***	36.25***	25.93***
	$18^{\#}$	$18^{\#}$	$18^{\#}$

Figures in parentheses represent cross-section clustered Eicker-Huber-White adjusted t-statistics.
***, ** and * indicate significance at 1%, 2.5% and 5% respectively.
# indicates degree of freedom.

Table B.23

Annual Regressions: Firm Value and Tax Planning – Persistent and Non-Persistent Profit-Making Companies

	(I)	(II)	(III)
DV=$MVE_{t+3months}/BVE_{t-1}$	**2005**	**2006**	**2007**
BVE	1.0238	1.4728	-0.9540
	(4.62)***	(3.09)***	(-1.95)*
PBT	10.6980	10.7652	9.8823
	(13.84)***	(16.90)***	(10.55)***
TS	-7.5579	-7.7699	0.7465
	(-1.50)	(-1.93)*	(0.19)
NPSTDUMTS	-16.0897	-39.3077	-
	(-1.80)*	(-2.46)**	
CC	0.6509	-0.8146	2.1178
	(1.15)	(-1.12)	(3.57)***
EM	-2.6470	-3.2055	-3.4511
	(-3.84)***	(-5.75)***	(-5.28)***
CAPINT	-0.3645	-0.6676	-1.0437
	(-1.27)	(-2.55)**	(-3.06)***
LEV	0.2860	0.1975	-0.3436
	(0.47)	(0.33)	(-0.51)
DIV	-0.0022	0.0002	0.0038
	(-0.71)	(0.06)	(0.86)
FS	0.0067	0.0068	0.0020
	(2.42)**	(2.81)***	(0.81)
Cons	-0.1232	-0.6196	1.3698
	(-0.30)	(-1.05)	(2.46)**
R-squared	82.04%	83.08%	71.25%
n	163	157	152
F-statistic	68.41***	44.40***	27.48***
	$18^{\#}$	$17^{\#}$	$16^{\#}$

Figures in parentheses represent cross-section clustered Eicker-Huber-White adjusted t-statistics.
***, ** and * indicate significance at 1%, 2.5% and 5% respectively.
# indicates degree of freedom.

Table B.24

Annual Regressions: Firm Value, Tax Planning and Corporate Governance – Persistent and Non-Persistent Profit-Making Companies

	(I)	**(II)**	**(III)**
DV=$MVE_{t+3months}/BVE_{t-1}$	**2005**	**2006**	**2007**
BVE	1.0268	1.4672	-0.9545
	(4.39)***	(3.02)***	(-1.90)*
PBT	10.7224	10.8044	9.8587
	(13.85)***	(17.37)***	(10.39)***
TS	-7.4779	-7.9760	0.8241
	(-1.42)	(-1.96)*	(0.20)
NED	0.0037	0.0026	0.0040
	(0.45)	(0.34)	(0.56)
IOWN	0.0026	-0.0041	0.0022
	(0.51)	(-0.73)	(0.36)
NPSTDUMTS	-14.6289	-40.0394	-
	(-1.54)	(-2.24)**	
CC	0.6663	-0.7240	2.0907
	(1.09)	(-1.00)	(3.31)***
EM	-2.6561	-3.1968	-3.3668
	(-3.89)***	(-5.64)***	(-4.68)***
CAPINT	-0.3689	-0.6361	-1.0550
	(-1.30)	(-2.54)**	(-3.11)***
LEV	0.2492	0.0660	-0.4280
	(0.42)	(0.11)	(-0.63)
DIV	-0.0018	-0.0002	0.0040
	(-0.59)	(-0.06)	(0.92)
FS	0.0060	0.0068	0.0017
	(1.98)**	(2.73)***	(0.67)
Cons	-0.3715	-0.6226	1.0582
	(-0.61)	(-0.82)	(1.63)
R-squared	82.12%	83.17%	71.36%
n	163	157	152
F-statistic	61.41***	42.29***	26.17***
	$20^{\#}$	$19^{\#}$	$18^{\#}$

Figures in parentheses represent cross-section clustered Eicker-Huber-White adjusted t-statistics.
***, ** and * indicate significance at 1%, 2.5% and 5% respectively.
# indicates degree of freedom.

Table B.25

Annual Regressions: Firm Value and Components of Tax Saving – Persistent Profit-Making Companies

	(I)	(II)	(III)
DV=$MVE_{t+3months}/BVE_{t-1}$	**2005**	**2006**	**2007**
BVE	0.6995	1.0305	-1.6880
	(2.04)***	(2.60)***	(-2.65)***
PBT	9.7108	10.8634	10.2907
	(11.03)***	(19.61)***	(12.79)***
TLOSS	13.4291	0.1072	27.3225
	(1.37)	(0.01)	(1.22)
TPD	-15.9155	-20.5526	29.4864
	(-1.97)*	(-2.78)***	(2.69)***
TTD	11.1602	12.8281	25.0081
	(1.68)*	(1.70)*	(2.61)***
TFTR	22.7113	9.8445	46.4135
	(1.89)*	(1.20)	(3.40)***
TUNC	-20.2492	31.1064	-3.3048
	(-1.43)	(2.38)**	(-0.29)
CC	1.1701	-0.7898	2.7937
	(2.31)**	(-1.44)	(3.61)***
EM	-1.8286	-2.6290	-3.0259
	(-2.54)**	(-4.66)***	(-4.73)***
CAPINT	-0.1234	-0.5705	-0.8814
	(-0.39)	(-2.26)**	(-2.63)***
LEV	0.3662	-0.0262	-0.6703
	(0.63)	(-0.05)	(-1.00)
DIV	0.0028	0.0002	0.0053
	(0.87)	(0.06)	(1.13)
FS	0.0098	0.0065	0.0014
	(3.62)***	(2.88)***	(0.57)
Cons	0.1292	-0.2706	1.7647
	(0.30)	(-0.56)	(2.40)**
R-squared	74.47%	87.88%	75.36%
n	135	135	135
F-statistic	16.63***	41.33***	17.44***
	$20^{\#}$	$20^{\#}$	$20^{\#}$

Figures in parentheses represent cross-section clustered Eicker-Huber-White adjusted t-statistics.
***, ** and * indicate significance at 1%, 2.5% and 5% respectively.
# indicates degree of freedom.

Table B.26

Annual Regressions: Firm Value, Components of Tax Saving and Corporate Governance – Persistent Profit-Making Companies

	(I)	(II)	(III)
DV=$MVE_{t+3months}/BVE_{t-1}$	**2005**	**2006**	**2007**
BVE	0.7706	1.0115	-1.6818
	(2.14)**	(2.44)**	(-2.54)**
PBT	9.7034	10.9025	10.2776
	(10.78)***	(18.90)***	(11.94)***
NED	0.0068	0.0036	0.0013
	(0.86)	(0.50)	(0.21)
IOWN	-0.0010	0.0011	0.0008
	(-0.21)	(0.18)	(0.12)
TLOSS	12.7527	0.9603	27.8859
	(1.21)	(0.12)	(1.22)
TPD	-17.0481	-20.6681	29.5961
	(-1.99)**	(-2.80)***	(2.65)***
TTD	11.0665	13.0295	25.1923
	(1.61)	(1.67)*	(2.65)***
TFTR	22.8321	10.3766	46.3689
	(1.87)*	(1.17)	(3.30)***
TUNC	-19.7354	30.9350	-2.7656
	(-1.44)	(2.09)**	(-0.24)
CC	1.1038	-0.7952	2.7714
	(2.07)**	(-1.45)	(3.40)***
EM	-1.9015	-2.5832	-2.9827
	(-2.70)***	(-4.34)***	(-4.22)***
CAPINT	-0.1216	-0.5704	-0.8820
	(-0.40)	(-2.26)**	(-2.64)***
LEV	0.2815	-0.0828	-0.6950
	(0.47)	(-0.51)	(-1.04)
DIV	0.0030	0.0001	0.0054
	(0.91)	(0.05)	(1.14)
FS	0.0088	0.0062	0.0013
	(2.81)***	(2.63)***	(0.52)
Cons	-0.2474	-0.4583	1.6530
	(-0.39)	(-0.76)	(2.02)**
R-squared	74.69%	87.93%	75.38%
n	135	135	135
F-statistic	15.03***	37.09***	15.58***
	$22^{\#}$	$22^{\#}$	$22^{\#}$

Figures in parentheses represent cross-section clustered Eicker-Huber-White adjusted t-statistics.
***, ** and * indicate significance at 1%, 2.5% and 5% respectively.
# indicates degree of freedom.

Table B.27

Annual Regressions: Firm Value, Components of Tax Saving and Corporate Governance with Interaction Variables – Persistent Profit-Making Companies

	(I)	(II)	(III)
DV=$MVE_{t+3months}/BVE_{t-1}$	**2005**	**2006**	**2007**
BVE	0.9931	1.1223	-1.2384
	(2.81)***	(3.07)***	(-1.94)*
PBT	9.2793	11.3381	10.0258
	(10.41)***	(20.96)***	(10.63)***
NED	0.0086	-0.0014	-0.0050
	(1.22)	(-0.18)	(-0.45)
IOWN	0.0009	0.0102	0.0125
	(0.18)	(1.46)	(1.59)
TLOSS	43.4085	41.5914	73.5482
	(1.98)*	(2.66)***	(2.82)***
TPD	8.0038	-31.5985	-12.2378
	(0.51)	(-2.04)**	(-0.24)
TTD	44.7185	92.2947	112.4462
	(1.25)	(1.92)*	(1.93)*
TFTR	48.3433	-42.2585	-18.6723
	(1.08)	(-0.87)	(-0.23)
TUNC	31.9274	94.5330	-23.8075
	(0.34)	(1.50)	(-0.32)
TLOSS_NED^	0.7263	-0.6956	-1.0204
	(0.83)	(-0.78)	(-0.33)
TLOSS_IOWN	-0.9251	-1.6092	-1.7376
	(-1.35)	(-3.04)***	(-2.48)**
TPD_NED^	-0.0372	0.2987	0.0903
	(-0.04)	(0.30)	(0.06)
TPD_IOWN	-0.5728	0.2304	1.0569
	(-1.38)	(0.52)	(0.80)
TTD_NED	-0.0987	-0.0913	-0.5568
	(-0.17)	(-0.11)	(-0.70)
TTD_IOWN	0.8793	-2.1357	-1.5884
	(-1.76)*	(-2.92)***	(-1.87)*
TFTR_NED	0.6185	0.8017	0.9854
	(0.77)	(0.98)	(0.94)
TFTR_IOWN	-1.8817	0.1243	-0.1292
	(-2.70)***	(0.25)	(-0.14)
TUNC_NED	0.9802	-1.0532	0.6250
	(0.74)	(-1.17)	(0.58)
TUNC_IOWN	-3.1424	0.1249	-0.2040
	(-3.55)***	(0.13)	(-0.14)
CC	1.2317	-1.2726	2.3933
	(2.19)**	(-2.43)**	(3.07)***
EM	-1.5656	-2.1676	-2.8094
	(-2.09)**	(-3.79)***	(-3.58)***
CAPINT	-0.1864	-0.4327	-0.6799
	(-0.61)	(-1.56)	(-1.74)*
LEV	0.2503	-0.1091	-0.5900
	(0.42)	(-0.19)	(-0.80)
DIV	0.0031	0.0003	0.0027
	(0.95)	(0.09)	(0.49)
FS	0.0062	0.0048	0.0030
	(2.15)**	(2.11)**	(1.08)

Cons	-0.4782	-0.6182	0.9100
	(-0.84)	(-0.97)	(0.90)
R-squared	78.57%	89.70%	78.19%
n	135	135	135
F-statistic	11.69***	22.76***	11.43***
	32#	32#	32#

Figures in parentheses represent cross-section clustered Eicker-Huber-White adjusted t-statistics.
***, ** and * indicate significance at 1%, 2.5% and 5% respectively.
# indicates degree of freedom.
^ indicates centred variable.

Table B.28

Year Dummies: Firm Value and Tax Planning

	(I)	(II)	(III)
DV=$MVE_{t+3months}/BVE_{t-1}$	**Persistent Profit-Making Companies**	**Persistent and Non-Persistent Profit-Making Companies**	**Components of Tax Saving – Persistent Profit-Making Companies**
BVE	1.1449	1.0890	0.7681
	(5.04)***	(4.92)***	(2.87)***
PBT	9.9825	9.9726	9.5940
	(17.29)***	(18.15)***	(15.05)***
TS	-8.5650	-7.9537	-
	(-2.80)***	(-2.71)***	
NPSTDUMTS	-	-15.5259	-
		(-1.78)*	
TLOSS	-	-	0.0793
			(0.01)
TPD	-	-	-11.4174
			(-1.82)*
TTD	-	-	6.9996
			(1.44)
TFTR	-	-	9.7455
			(1.17)
TUNC	-	-	-4.8217
			(-0.43)
CC	0.1460	0.3313	0.4290
	(0.33)	(0.75)	(0.94)
EM	-2.7343	-2.8161	-2.4814
	(-6.64)***	(-7.06)***	(-5.67)***
CAPINT	-0.5591	-0.5875	-0.4950
	(-3.03)***	(-3.18)***	(-2.48)**
LEV	-0.1146	0.1771	0.1368
	(-0.26)	(0.44)	(0.33)
DIV	0.0002	0.0007	0.0029
	(0.10)	(0.38)	(1.67)*
FS	0.0060	0.0047	0.0061
	(2.88)***	(2.33)**	(3.05)***
Year dummy1	0.3754	0.3832	0.3206
	(3.38)***	(3.51)***	(3.17)***
Year dummy2	0.5777	0.5976	0.5469
	(5.63)***	(5.95)***	(5.62)***
Cons	-0.5549	-0.6580	-0.4404
	(-1.49)	(-1.66)*	(-1.07)
R-squared	67.52%	67.04%	62.69%
n	444	472	405
Wald chi^2	672.47***	799.04***	461.55***
	$18^{\#}$	$20^{\#}$	$22^{\#}$
Breusch-Pagan	77.89***	78.78***	75.12***
	$18^{\#}$	$20^{\#}$	$22^{\#}$

Figures in parentheses represent cross-section clustered Eicker-Huber-White adjusted t-statistics.
***, ** and * indicate significance at 1%, 2.5% and 5% respectively.
# indicates degree of freedom.

Table B.29

Year Dummies: Firm Value, Tax Planning and Corporate Governance

	(I)	(II)	(III)	(IV)
DV=MVE$_{t+3months}$/ BVE$_{t-1}$	**Persistent Profit-Making Companies**	**Persistent and Non-Persistent Profit-Making Companies**	**Components of Tax Saving – Persistent Profit-Making Companies**	**Components of Tax Saving – Persistent Profit-Making Companies**
BVE	1.1658	1.1046	0.7843	0.7743
	(5.12)***	(4.95)***	(2.83)***	(2.71)***
PBT	9.9821	9.9459	9.5334	9.5760
	(17.15)***	(17.98)***	(14.77)***	(14.94)***
TS	-8.9484	-8.1781	-	-
	(-2.89)***	(-2.77)***		
NPSTDUMTS	-	-16.1760	-	-
		(-1.80)*		
NED	0.0078	0.0039	0.0072	0.0079
	(1.56)	(0.75)	(1.44)	(1.57)
IOWN	-0.0045	-0.0045	-0.0057	-0.0015
	(-1.14)	(-1.17)	(-1.47)	(-0.37)
TLOSS	-	-	-0.7457	21.8714
			(-0.13)	(1.49)
TPD	-	-	-11.7011	-12.8454
			(-1.92)*	(-0.95)
TTD	-	-	7.2161	28.9501
			(1.50)	(1.21)
TFTR	-	-	8.8090	5.7104
			(1.07)	(0.14)
TUNC	-	-	-6.7105	27.0367
			(-0.63)	(0.47)
TLOSS_NED^	-	-	-	-0.1100
				(-0.26)
TLOSS_IOWN	-	-	-	-0.6909
				(-1.78)*
TPD_NED^	-	-	-	-0.4023
				(-0.80)
TPD_IOWN	-	-	-	0.0295
				(0.08)
TTD_NED	-	-	-	-0.1409
				(-0.37)
TTD_IOWN	-	-	-	-0.4311
				(-1.30)
TFTR_NED	-	-	-	0.5147
				(0.81)
TFTR_IOWN	-	-	-	-0.7276
				(-1.54)
TUNC_NED	-	-	-	0.1162
				(0.15)
TUNC_IOWN	-	-	-	-1.1960
				(-3.08)***
CC	0.0915	0.2979	0.3913	0.5152
	(0.21)	(0.67)	(0.87)	(1.08)
EM	-2.7260	-2.8161	-2.5088	-2.3980
	(-6.52)***	(-6.96)***	(-5.52)***	(-5.10)***

CAPINT	-0.5560	-0.5674	-0.5095	-0.5484
	(-3.17)***	(-3.17)***	(-2.62)***	(-2.81)***
LEV	-0.2832	0.0652	-0.0465	-0.0034
	(-0.64)	(0.16)	(-0.11)	(-0.01)
DIV	0.0002	0.0006	0.0030	0.0029
	(0.12)	(0.34)	(1.74)*	(1.72)*
FS	0.0056	0.0046	0.0057	0.0053
	(2.69)***	(2.25)**	(2.81)***	(2.75)***
Year dummy1	0.3539	0.3596	0.2937	0.3388
	(3.08)***	(3.22)***	(2.94)***	(3.27)***
Year dummy2	0.5615	0.5824	0.5269	0.5232
	(5.38)***	(5.73)***	(5.43)***	(5.14)***
Cons	-0.8246	-0.6983	-0.6104	-0.7900
	(-1.80)*	(-1.47)	(-1.31)	(-1.66)*
R-squared	67.91%	67.47%	63.43%	63.99%
n	444	472	405	405
Wald chi^2	674.08***	808.44***	466.48***	604.46***
	$20^{\#}$	$22^{\#}$	$24^{\#}$	$34^{\#}$
Breusch-Pagan	79.56***	81.49***	76.35***	88.70***
	$20^{\#}$	$22^{\#}$	$24^{\#}$	$34^{\#}$

Figures in parentheses represent cross-section clustered Eicker-Huber-White adjusted t-statistics.
***, ** and * indicate significance at 1%, 2.5% and 5% respectively.
# indicates degree of freedom.
^ indicates centred variable.

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