Agency Trade-offs in Family Firms: Theoretical Model, Empirical Testing and Implications

A dissertation submitted to the School of Business in candidacy for

the degree of Doctor of Philosophy

by

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Statement of Sources

To the best of my knowledge and belief, the work presented in this thesis is original, except as acknowledged in the text. All sources used in the study have been cited, and no attempt has been made to project the contribution of other researchers as my own. Further, the material has not been submitted, either in whole or part, for another degree at this or any other University.

Mark Anson Yupitun

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Abstract

Agency theory is one of the principal frameworks utilized in explaining the *family business* phenomena. The objectives of this dissertation are to (1) identify the unique agent-principal dynamics that differentiate family firms from non-family firms, (2) determine the effects of these unique agency dynamics on family firm performance, and (3) evaluate these unique agency dynamics within family businesses, as moderated by differing forms of governance and management practices.

This dissertation proposes that family firms are defined by two unique and opposing agency dynamics. On one hand, it is posited that family firms are defined by their ability to deploy concomitant forms of relational governance that reduce information asymmetry and associated agency costs. On the other hand, it is posited that family firms are distinctly encumbered with agency costs from non-economic family-oriented goals. These distinct agency cost-savings, termed as *family gains*, and agency costs, termed as *family costs*, contribute to the study on how and why family firms perform differently than non-family firms.

In addition, the study proposes that the ensuing trade-off between *family gains* and *family costs* may lead to competitive advantages for family firms in highly competitive environments. This agency trade-off provides a link between agency theory and the resource-based perspective of the family firm.

Finally, this dissertation seeks to investigate these agency dynamics among family firms that employ differing governance and management practices. In particular, this study looks at how the agency dynamics of family firms that employ the most concentrated forms of management and governance, manifested as owner-manager led family firms, compare against other forms of family firms. This study posits that owner-

manager led family firms, on one hand, have greater *family gains* and, on the other hand, have greater *family costs* when compared against other forms of family firms. Moreover, it is proposed that under highly competitive environments, the trade-off between *family gains* and *family costs* lead to greater competitive advantages for owner-manager led family firms over other family firms.

This dissertation employs cross-sectional linear regression as the primary tool for empirical analysis on Australian business data. In addition, non-parametric testing is utilized to support the above analysis. These analyses are complemented by proper robustness checks to support the study's validity.

The results from empirical analysis corroborate this study's propositions. First, the research suggests that family firms have *family gains* driven by lower information asymmetries, but have *family costs* driven by greater divergence in firm objectives. Second, the results indicate that family firms outperform non-family firms, which is consistent with extant family business literature. Likewise, the results suggest that family firms under managerial ownership have greater *family gains* and greater *family costs* than other family firms. Finally, the results show that owner-manager led family firms outperform other family firms. Accordingly, this study discusses the governance and management implications of the aforementioned agency dynamics within family businesses.

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Chapter 1. Introduction

1.1 The Research Question

The objective of this thesis is to identify the unique drivers of family firm behavior that differentiate family firms from non-family firms based on an agency-theoretic framework. The research highlights distinct agency cost-savings, termed as *Family Gains*, and agency costs, termed as *Family Costs*[1], characteristic among family firms vis-à-vis non-family firms. Understanding these distinguishing agency dynamics contributes to the study on how and why family firms, in general, perform differently than non-family firms. Moreover, this paper seeks to demonstrate that the trade-offs between these two family-based agency dynamics may create sustainable competitive advantages or disadvantages for family firms, and hence provide a link to the resource-based explanation of their performances. Thus, this alternative framework integrates the agency and resource-based theory in identifying the behaviors that distinguish family firms from non-family firms. Subsequently, the relationship between the degree of family influence, specifically characterized as managerial ownership, and the abovementioned family firm agency dynamics, is established. This study evaluates the potential differences in firm performance of owner-manager led family firms against other forms of family firm governance through their underlying agency attributes. Hence, results from this analysis seek to highlight the governance and management implications of the aforementioned agency trade-offs in family businesses. The research question can thus be formulated as:

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[1] Technically, *Family Gains* and *Family Costs* refer to family firm agency cost-savings and family firm agency costs respectively.

What are the unique agency dynamics that differentiate family firms from non-family firms, how do they affect firm performance, and how does managerial ownership moderate this relationship?

1.2 Research Overview

Contemporary studies in corporate ownership of the modern corporation reveal that family businesses are the predominant firm structure around the world (La Porta, De-Silanes, Shleifer, 1999; Astrachan & Shanker, 2003). Their significance to the global economy has been well-documented. For example, research indicates that family businesses contribute 45-70% of a country's Gross National Product (GNP), and in Europe alone, account for about 45 million workers (Schwass, 2005). Mishra and McConaughy (1999) provide evidence that 65% to 80% of worldwide businesses are family controlled. They add that virtually all non-state owned Indian and Korean enterprises, and the majority of Canadian and mid-sized Austrian firms are family-controlled. Based on conservative estimates from the Australian Bureau of Statistics' Business Longitudinal Study, Moores and Mula (2000) suggest that at least half of all businesses are family-owned within Australia.

There has been evidence to suggest that the economic performance of large, founding family firms outperform their non-family counterparts (Anderson & Reeb, 2003; Miller & Le-Breton Miller, 2005). In contrast, studies done by Randoy and Goel (2003), Villalonga and Amit (2006), and Randoy, Dibrell and Craig (2007) among others, indicate that the distinction between family and non-family firm performance is more complex than what was suggested by earlier research. What is clear from these studies is that family firms perform differently than non-family firms. Chrisman, Chua and Sharma

(2005), using an agency theory framework, suggest that family firm governance may provide family firms with the distinctive properties that enable them to achieve this outcome.

Dyer (2006) posits that there are two opposing schools of thought regarding principal-agent relationships. While traditional studies in agency theory suggest that there are less agency costs within family firms (Jensen & Meckling, 1976; Daily & Dollinger, 1992; Kang, 2000; Ng, 2005), more recent studies indicate that family firms incur greater costs from agency-related problems such as altruism and entrenchment than non-family businesses(Gomez-Mejia, Nunez-Nickel & Guttierez, 2001; Morck & Yeung, 2003; Schulze, Lubatkin & Dino, 2003). This dissertation posits that the two abovementioned schools of thought are not necessarily mutually exclusive.

This research identifies family-specific behaviors, termed *personalism* and *particularism* (Carney, 2005), as the drivers of unique agency relationships within family firms. Using extant literature to disentangle the principal-agent relationship within family firms, it can be observed that these behaviors encourage a convergence of information asymmetry on one hand, and a divergence of corporate objectives on the other, among these firms. From this, it can be inferred that agency conditions in family firms have unique cost-saving (*family gain*) properties arising from the former, and unique cost (*family cost*) properties resulting from the latter. Accordingly, the objective of this study is to provide empirical validation of the presence of *family gains* from the convergence of information asymmetry, and *family costs* from the divergence of firm objectives. Further, this study incorporates a resource-based framework in evaluating the relationship of *family gains* and *family costs*. It is posited that each family firm possesses an

idiosyncratic trade-off between these two properties that inspire competitive advantages or disadvantages vis-à-vis non-family firms. Subsequently, this study analyzes the effects of this dynamic on firm performance on both types of firms. Finally, McConaughy, Matthews, and Fialko (2001) suggest the family's influence on principal-agent conflicts among family businesses can be examined through an empirical study of the form of governance they adopt. Specifically, they suggest that the managerial ownership, or lack thereof, may influence agency relationships in family firms. Consequently, this study tests for the moderating effects of managerial ownership on *family gains*, *family costs*, and the resulting firm performance.

1.3 Contributions to Knowledge

This comparative study between (1) family versus non-family firms, and (2) owner-manager led family firms versus other family firms, is undertaken within the context of the Australian business environment. This research aspires to demonstrate that family firms have an underlying agency trade-off which differs from non-family firms, and provides better understanding of the contextual nature of family firms' governance requirements. Implications arising from this study will potentially benefit researchers, educators, regulators, corporations, and investors.

1.3.1 Researchers

Results from this study contribute to the field of family business research in several ways. First, the concept of an agency "trade-off" in family firms harmonizes the two conflicting schools of thought in family business agency theory. Second, it provides an empirical link between the agency and resource-based frameworks in distinguishing family firms from non-family firms. Third, it provides a better understanding of

managerial ownership, and its governance and management implications, in family firms. Fourth, it extends the external validity of the above-mentioned family business framework to publicly-listed family businesses within Australia. Finally, it provides new avenues for future research and replication in markets outside Australia.

1.3.2 Educators

Educators of family business topics will have a better understanding of the agency relationships and implications with family firms. Analysis of family firm agency dynamics will assist in classroom discussion on the difference between family and non-family firm. Moreover, it may assist in reconciling conflicts in agency-based family business literature, and hence provide students with a different viewpoint in evaluating extant literature. In addition, this study may help highlight the link between the agency perspective and the resource-based perspective of the family firm to students. The investigation of case studies may be employed within the context of conclusions derived from this research. Finally, empirical replication of the research design may be suitable projects for interested students.

1.3.3 Regulators

Current Australian regulations, as enforced by the ASIC and ASX (Collier, 2002), require significant safeguards against highly concentrated forms of management and governance (for instance, joint CEO-Chairmanship in public firms is discouraged). If this study's findings successfully show the detrimental effects of *family costs* and their prevalence in owner-manager family firms vis-à-vis other forms of governance, this will validate the government's above-mentioned stance in corporate governance. Conversely hand, if the relationship is shown to be insignificant, this may contradict current

regulatory prohibitions in Australian public firms. Thus, this research will provide a symmetrical contribution to Australian regulatory practitioners. Additionally, results from this study may become a reference for future corporate regulations that may involve ownership, governance and management issues.

1.3.4 Corporations

This study can potentially benefit both family and non-family companies. For family firms on one hand, this research highlights the agency cost-saving conditions and implications that will allow these firms to maximize their potential. Further, it provides a blueprint for firms to avoid the agency cost conditions and pitfalls unique among family businesses. Given the importance and role family businesses play around the world, this research aspires to have a global impact with its contribution. On the other hand, the analysis of family firm-specific agency dynamics can improve non-family corporations' understanding of the drivers of competitive advantages and disadvantages that differentiate them from family corporations. As such, this study provides non-family firms with tools to emulate the competitive advantages potentially enjoyed by family firms. Moreover, it allows non-family firms to avoid agency inefficiencies and to formulate strategies in exploiting agency weaknesses in family firms. Finally, this dissertation illustrates the governance and management implications of agency trade-off which may be beneficial to both family and non-family corporations.

1.3.5 Investors

Results from this study may confirm or alter the current market perceptions of family firms and their governance and management choices, especially for publicly-listed Australian firms. This study serves as an additional tool for investors to analyze the

performance implications of governance and management decisions among family and non-family firms. Thus, results from this study may enable investors to make better business judgments and investment decisions.

1.4 Definition of Terms

1.4.1 Family Business

Also refers to *family firm.*

Academic research into family business as an independent and unique field is relatively young. As such, there has been a lack of consensus about the definition of a family firm. Chrisman, Chua and Sharma (2005) suggest that there are two general philosophies in defining a family business: (1) the components-of-involvement approach and, (2) the essence-based approach.

The components-of-involvement approach believes that family involvement is a sufficient condition to classify a firm as a family business. Typically, family involvement is characterized by a combination of ownership, governance, management and/or succession.

Conversely, the essence-based approach is established upon the belief that the family's involvement is not a sufficient condition. It is necessary that family's involvement and behavior, such as ownership, governance, management, succession, vision and culture, influence certain idiosyncrasies within the firm before it could be effectively classified as a family firm. Further, the essence-based approach emphasizes that the intention to pass the business to the family's subsequent generation is a key element in family firms. Chua, Chrisman and Sharma (1999) provide a conceptual definition of this essence-based approach to family business:

The family business is a business governed and/or managed with the intention to shape and pursue the vision of the business held by a dominant coalition controlled by members of the same family or a small number of families in a manner that is potentially sustainable across generations of the family or families (Chua, Chrisman and Sharma, 1999).

Based on the above definition, family influence on businesses is a key construct that overlays this study. As such, this thesis provides a comparative study on the behaviors and performance between family and non-family firms. Moreover, the degree of family involvement within a firm varies from one family business to the next. Ward's (1987) typology illustrates this by suggesting that family firms may be viewed as family-first, business-first, or family-enterprise first firms, depending on the degree of family involvement. Moreover, Miller, Le-Breton Miller, Lester and Cannella (2007) warns that empirical findings in family business research may be affected by endogeneity and selection bias issues in the definition of what constitutes a family business.[2] Cognizant of these issues, this thesis examines the effect of varying degrees in family involvement through a comparative study of owner-manager led family firms against other types of family firms.

Chua, Chrisman and Sharma (1999) suggest that the components-of-involvement approach in defining family businesses should preferably be used with appropriate theoretical guidance via an essence-based approach. By adopting this definition, this research's theoretical framework relies on an essence-based definition on the family firm. This concurrently provides the conceptual guidance that enables empirical testing to

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[2] Specifically, Miller, Le-Breton Miller, Lester and Cannella (2007) attribute the superior performance of family firms to a specific class of founder-led businesses.

utilize a components-of-involvement approach in operationalizing family-related variables. Given that not all family firms are alike (Chrisman, Sharma & Taggar, 2007), such a definitional approach highlights that the key attributes of family firms arise from:

- A dominant family coalition that is involved in either ownership or management of the firm, and;

- A vision to continue the business as a family enterprise in the future.

Consequently, the varying degree to which family influence and involvement affects these attributes result in the differences in behaviour and performance amongst family firms.

Some studies suggest that the most basic form of family businesses are ones that are under a managerial ownership form of governance (Chua, Chrisman & Sharma, 1999; Ng, 2005). This research evaluates the effects of differing agency conditions within family firms by specifically comparing owner-manager led family firms with that of other types of family businesses. For the purpose of this study, an owner-manager led family firm is defined as one that has a member of the dominant family coalition occupying a dual directorship and top management role within the business.

1.4.2 Agency Theory

Agency theory refers to the principal-agent problem wherein the principal faces the problem of motivating the agent to act on its behalf. Costs associated with mitigating this problem are referred to as agency costs. Within the context of separation of ownership and management, agency costs are brought about by the presence of information asymmetry and misalignment of goals between principal and agent that impedes the efficient allocation of resources in the market. Information asymmetry arises

when agents have better information than principals about the value of business investment opportunities. When investors delegate management roles to the manager, there is an incentive for the latter to pursue their personal goals. Hence, when the pursuit of these objectives is divergent from the owners' own objectives, they can lead to expropriation of resources via economic decisions that may be detrimental to the owners' investment, eventually leading to agency costs (Jensen & Meckling, 1976; Morck, Shleifer & Vishny, 1988; Healy & Palepu, 2001).

Lubatkin, Schulze, Ling and Dino (2005) classify agency threats that arise from principal-agent conflict generally into moral hazard, hold-up and adverse selection. Moral hazard is the incentive to seek additional compensation in the form of (1) perquisites, (2) non-compensatory means such as withholding effort (ie. shirking and free-riding) and information, or (3) misappropriation of firm's resources. James (1999) describes moral hazard as agency activities that either change the likelihood of the firm incurring losses or affect the size of losses incurred. Hold-up occurs when managers use power stemming from rights of co-ownership and/or control to force investors to accept changes that are not in their best interest. Adverse selection is the risk of hiring and/or promoting unqualified individuals.

Further, Lubatkin, Schulze, Ling and Dino (2005) describe subsequent agency costs as the cost of monitoring, supervision, negotiation, and performance incentives, as well as residual opportunity costs and potential loss in productivity, engendered by any of these agency threats.

1.4.3 Personalism

Personalism refers to the unification of ownership and control into an organizational entity such as a dominant family coalition or an owner-manager (Carney, 2005). Personalism is consistent with the family firm's inward-regarding perspective.

1.4.4 Particularism

Particularism refers to the decision-making authority of an entity, such as a dominant family coalition or an owner-manager, based upon discriminative or "particularistic" criteria of their own choosing, as opposed to rationally-calculative criteria (Carney, 2005). Particularism is consistent with the family firm's outward-regarding perspective.

1.4.5 Parsimony

Parsimony refers to the tendency of family firms towards prudent resource conservation and resource allocation, vis-à-vis non-family firms (Carney, 2005). Parsimony arises from the family firm's ability to strategically influence decisions pertaining to the allocation of the company's wealth (Carney, 2005). The family firm's strategic influence, in turn, is dependent on the level of unification of ownership and control (ie. personalism, or inward-regarding behavior) and discriminative decision-making criteria (ie. particularism, or outward regarding behavior) available to the dominant family group (Schulze, Lubatkin & Dino, 2003).

1.4.6 Economic Objectives

While there seems to be a lack of general definition of family businesses' economic and non-economic objectives within the family business literature, for the

purposes of this thesis, economic objectives refer to the company's goal to maximize shareholder wealth. Thus, economic objectives are the business' responsibility to shareholders. These are measured by financial performance appertaining to the business.

1.4.7 Non-Economic Objectives

Concurrently, the family business' non-economic objectives refer to goals that seek to maximize the tangible wealth and/or intangible welfare of the family stakeholders. Thus, non-economic objectives are the family business' responsibility to the stakeholders belonging under the dominant family group. These are measured by benefits, financial or otherwise, appertaining to the family. The presence of non-economic objectives is consistent with Sharma, Chrisman & Chua's (1997) view that family firms have multi-faceted objectives, which are not necessarily in harmony with the firm's economic objectives.

It is emphasized that, for the purposes of this paper, non-economic objectives do not refer to non-pecuniary benefits in general. Instead, these refer to pecuniary and/or non-pecuniary benefits that do not contribute to the firm's well-being but accrue to family stakeholders instead.

1.4.8 Resource-based View

The resource-based view of organizations examines the specific, complex, dynamic and intangible resources that are unique to a particular firm. These resources, under certain circumstances, provide the firm with competitive advantages against rival organizations (Barney, 1991). Habbershon and Williams (1999) utilized this resource-based organizational perspective to argue that successful family businesses possess valuable, rare and inimitable resources that sustain their competitive advantages over

their non-family firm rivals. These unique resources, coined as *familiness*, enable family firms to develop sustainable competitive advantages. Sirmon & Hitt (2003) distinguishes between five sources of these family firm resources: human, social, patient, survivability and governance structures. Further, they argue that family firms acquire, evaluate, shed, bundle and leverage these resources in ways that are dissimilar from non-family firms (Sirmon & Hitt, 2003; Chrisman, Chua & Sharma, 2005).

Specific examples of how family firms transmute these resources into sustainable competitive advantages include:

- higher overall corporate productivity and longer term commitment to investments in people and innovation resulting from a concentrated ownership structure;

- Focus on customers and market niches that result in higher returns on investments;

- The desire to protect the family name which translates into higher product and service quality;

- Ownership commitment that supports patient capital;

- Product enhancement via reputational capital;

- Enhanced skill and knowledge transfer across generations arising from family unity and culture; and

- Overlapping responsibilities of owners and managers, which result in lower administrative costs (Habbershon & Williams, 1999; Simon & Hitt, 2003; Poza, 2006).

1.5 Organization of the Thesis

This research specifically seeks to address the following questions:

- What are the unique agency dynamics that differentiate family firms from non-family firm?

- How do these dynamics affect firm performance between family and non-family firms?

- How does managerial ownership moderate this relationship?

A model of this thesis' research topic is illustrated in the following figure:
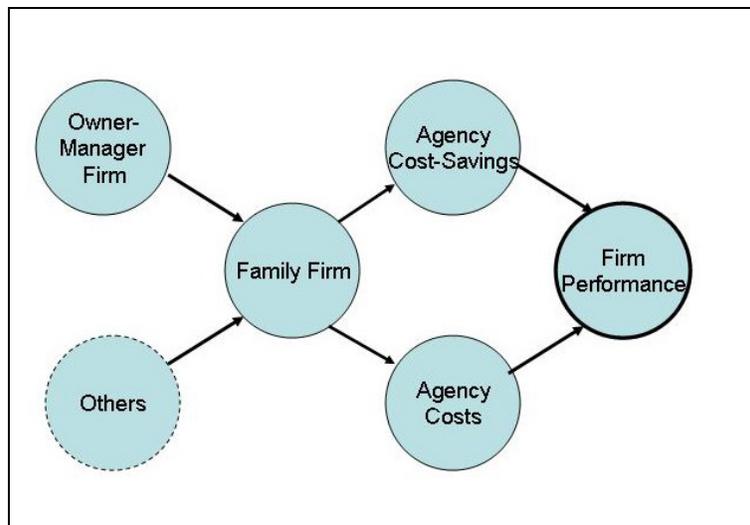
Figure 1.1: Model of the study.

The thesis is organized as follows: earlier, Chapter One discussed the research proposal and provided an overview of the scholarly developments in family business studies that encompasses the aforementioned area of research. Further, it summarized core concepts of the study and highlighted the study's contributions to knowledge. Finally, a definition of terms predominantly used in this thesis was detailed.

Chapter Two integrates the extant literature in family business studies, and develops the theoretical framework underlying the proposed empirical model. Theoretical

constructs are identified and validated within the current literature. Finally, this chapter forwards propositions and discusses related assumptions and limitations.

Chapter Three presents the research method and empirical techniques used in testing the propositions stated in Chapter Two. This chapter restates the propositions into hypotheses, and describes the operationalization of constructs discussed in the previous chapter. Further, a description of the selected sample, study period and data collection procedures are presented. Finally, the appropriate statistical analysis techniques employed are explained.

Chapter Four presents the results from the empirical procedures detailed in Chapter Three. Initially, descriptive statistics and correlation analysis is presented. The results and inferences from hypothesis testing are subsequently described. Finally, checks in statistical robustness of the results are provided.

Chapter Five summarizes the findings of the above study, and assimilates the results with the theoretical framework developed in Chapter Two. Further, this chapter describes the limitations of the study, and potential impact in future research. Finally, the chapter concludes by integrating the study's findings with its expected contributions described in Chapter One.

Chapter 2. Literature Review and Theory Development

2.1 Conflicts in Literature

Agency theory, as defined earlier, provides the theoretical framework for this research. Traditional agency theory suggests that there is less need for complex governance mechanisms and formal supervision for these firms therefore, their agency costs are not significant vis-à-vis non-family firms. Jensen and Meckling (1976) assume that the blurring of the boundary between principal and agent in family contracting makes agency threats largely inconsequential (Gomez-Mejia, Nunez-Nickel & Guttierez, 2001). This framework suggests that family businesses may be less reliant on formal governance mechanisms and their presence may even be deleterious to firm performance (Schulze, Lubatkin, Dino, Buchholtz, 2001). Subsequently, Daily and Dollinger (1992) and Kang (2000) suggest that family firms represent one of the most efficient forms of organizational governance. Ng (2005) demonstrates evidence from Asian family firms that support Jensen and Meckling's (1976) convergence of interest propositions.

Recent research however, suggests that agency costs in family businesses are more complex than originally thought, and who may in fact have one of the more costly forms of organizational governance (Schulze, Lubatkin & Dino, 2003; Steier, Chrisman & Chua, 2004). This paradox occurs because of two agency problems within family businesses: entrenched ownership and asymmetric altruism (Chrisman, Chua & Sharma, 2005). Entrenchment refers to the relational contract between owners and managers that enable both to occupy key positions in the firm for a significant duration. Asymmetric altruism is an agency problem that is specific to family businesses, hence, provides a distinguishing characteristic against non-family firms. It is a self-discipline problem

within the family firm that ultimately translates into agency costs (Chrisman, Chua & Sharma, 2005).

Although there are conflicts in the extant literature, it is clear from both schools of thought that principal-agent dynamics in family businesses are fundamentally different from non-family firms. For this reason, governance structures such as oversight boards, monitoring mechanisms, incentives and strategic planning systems of family firms may need to differ from those of non-family firms (Lubatkin, Schulze, Ling & Dino 2005; Mishra, Randoy & Jenssen, 2001). Understanding how agency relationships impact upon family firm performance and governance is of great relevance to family business research and serves as the primary motivation for this research.

The conflict between various above-mentioned family business literatures may have resulted from the aggregation of agency relationships utilized in their analyses. An inherent problem is that principal-agent conflict tends to be causally and sequentially entwined in a manner that makes their effects difficult to tease apart (Schulze, Lubatkin, Dino & Buchholtz, 2001). Subsequently, this research attempts to decouple various principal-agent relationships in order to identify agency dynamics peculiar to family businesses. Initially, this is facilitated by understanding what defines a family firm.

2.2 Drivers of Family Business Agency Dynamics

Earlier, family businesses, based on an essence-based approach, was defined as follows:

The family business is a business governed and/or managed with the intention to shape and pursue the vision of the business held by a dominant coalition controlled by members of the same family or a small number of families in a manner that is potentially

sustainable across generations of the family or families(Chua, Chrisman and Sharma, 1999).

This definition suggests that a family business is a function and amalgamation of a dominant family coalition and a long-term vision. Chua, Chrisman and Sharma (1999) define the *dominant coalition* to include the powerful actors in an organization who control the overall agenda of the family and business. *Vision* is defined as a notion of a better future for the family, with the business operated as a vehicle to achieve that desired future state. The combination of a dominant coalition and a long-term vision provide family businesses a unique personality that affects agency dynamics. This personality engenders idiosyncratic principal-agent behaviors that when viewed from a behavioral economics point-of-view (Schulze, Lubatkin & Dino, 2003), can be separated into inward-regarding and outward-regarding behavior.

It is inferred from existing studies that this inward-regarding and outward-regarding behaviors are sometimes referred to as personalism and particularism, respectively. Carney (2005)[3] identifies personalism and particularism as organizational propensities that enable family firms to develop unique governance and hence, agency relationships.

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[3] In addition to personalism and particularism, Carney (2005) posits a third family business propensity, parsimony, which refers to the conservative and sparing use of resources by family firms. Carney (2005) suggests that parsimony arises from the dominant family group's ability to influence strategic decisions pertaining to the allocation of the company's wealth. Chrisman, Steier & Chua (2006) refines Carney's (2005) proposition by illustrating that the family's strategic decision-making influence (and by association, its ability to be parsimonious) is driven by personalism and particularism. Similarly, this study focuses on the agency effects of personalism & particularism on the family firm's behavior (including parsimony), and its subsequent ability to generate competitive advantage. From the perspective of this thesis, personalism and particularism are behaviors that closely mirror the concept of behavioral economics in agency theory (Schulze, Lubatkin & Dino, 2003), and the issues of altruism and entrenchment (Chrisman, Chua & Sharma, 2005). These behaviours shape the unique personalities of family firms, and as discussed later, give rise to consequences such as parsimony, that enable competitive advantages and/or disadvantages amongst these firms.

Personalism is the inward-regarding aspect of the family business. Personalism occurs when the organizational authority is incorporated in the personality of the family business' dominant coalition (ie. owner and/or manager). Personalism inspires unique benefits and costs to the family firm. On one hand, personalism encourages fewer internal and external constraints relating to accountability, transparency and disclosure within the firm. Hence, decision-making speed and initiative are nurtured. On the other hand, personalism may also result in entrenchment and aforementioned agency problems associated with it.

Particularism is the outward-regarding aspect of the family business. Particularism occurs when the dominant coalition in the family firm substitutes the rational and calculative decision criteria with particularistic criteria for specific members or beneficiaries of the dominant coalition. As above, there is a trade-off between the unique costs and benefits associated with particularism. One on hand, particularism enables the owner-management team greater liberty to exercise authority. On the other hand, it leads to asymmetric altruism and its associated agency costs.

Particularism follows from the personalization of authority and stems from the tendency of the dominant coalition to view the firm as "our business" (Carney, 2005). In other words, under altruistic circumstances, wherein the welfare of the individual is positively linked to the welfare of others (Schulze, Lubatkin & Dino, 2003), personalism gives rise to particularism.

Based on these insights, it is posited that the combination of a dominant family coalition and family vision leads to distinctive behaviors of personalism and

particularism which drive unique agency relationships in family firms. This relationship is illustrated in Figure 2.1:
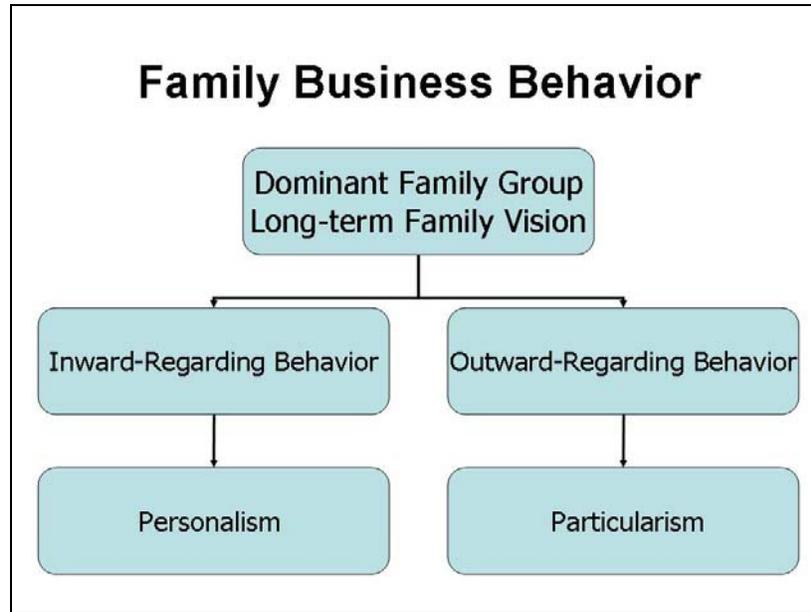
Figure 2.1: Family business and agency behavior

Personalism and particularism impact agency relationships in family firms by altering the core dynamics of this relationship. As defined earlier, agency conflict arises from the presence of information asymmetry and the misalignment of goals between principal and agent, which impede the efficient allocation of the firm's resources. From this definition, it can be observed that a firm's agency relationship is a function of (1) information asymmetry and (2) the asymmetry of interests and objectives between principals and agents.

Within family firms, personalism and particularism allow decision-making and authority to coalesce with a bias towards the dominant family coalition. This results in cost-savings arising from lower information asymmetry between owners and managers as described by Jensen and Meckling (1976).

Conversely, unlike non-family firms, whose sole objective is to maximize shareholders' economic wealth, the dominant coalition's vision in family firms may include non-economic family-centric objectives (Chrisman, Chua & Litz, 2004, Dyer 2006; Lubatkin, Durand & Ling, 2007). These divergent non-economic goals, driven by the dominant family's personalism and particularism, may encourage the development of agency costs unique among family firms.

Thus, it can be summarized that, on one hand, personalism and particularism reduce information asymmetry in family firms. On the other hand, personalism and particularism increase divergent interests among stakeholders in family firms. Figure 2.2 provides an illustration of how converging information asymmetry and diverging interests and objectives change the emphasis of agency threats and subsequently the agency costs needed to remedy them, in family firms vis-à-vis non-family firms.
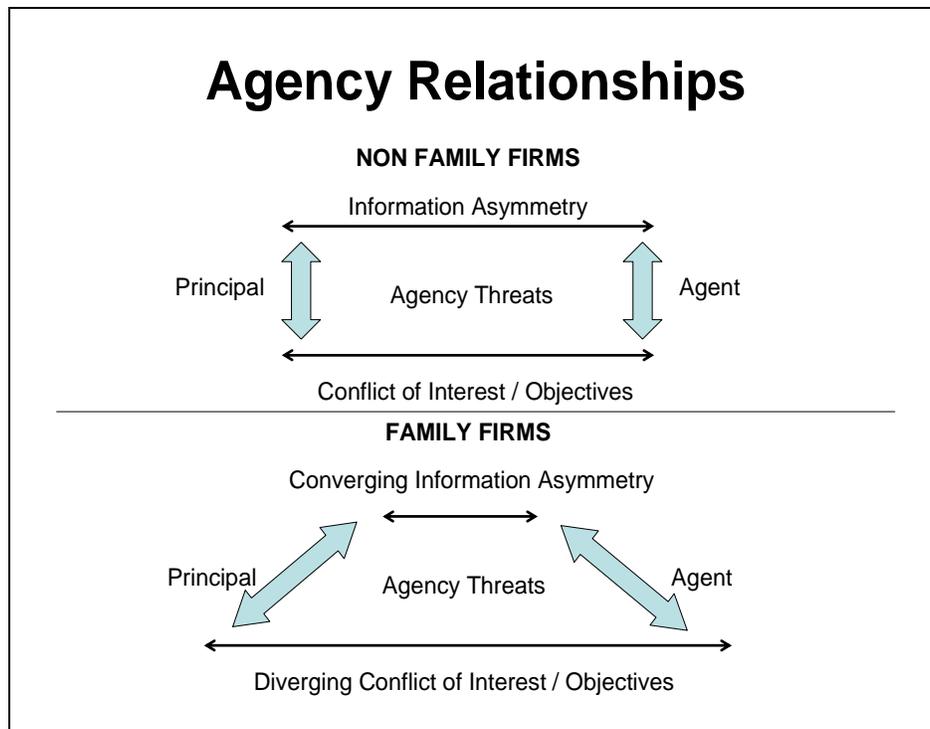
Figure 2.2: Differing nature of agency relationships in family and non-family firms.
Family firms have converging information asymmetry and diverging objectives
between principals and agents within the organizations.

Figure 2.2 is an illustration of the fundamental difference between agency relationships in family firms vis-a-vis non-family firms. In this illustration, suppose that within a non-family firm, the agency threats borne from the relationship between principal and agent arises equally from information asymmetry and diverging principal-agent interests. Thus, due to an equal distribution from both information asymmetry and diverging principal-agent interests, the level of agency threat encapsulated between principal and agent within a non-family business is shaped like a rectangle. Under ceteris paribus conditions, it is theorized that for family firms, there should be lower levels of information asymmetry but greater levels of diverging principal-agent interests. Thus, the illustration shows that the level of agency threat encapsulated between principal and agent within a family business is shaped like a triangle. This suggests that within family firms, the convergence information asymmetry reduces the risk of agency threats on one hand, but the divergence of firm objectives increases the risk of agency threats on the other hand.

Figure 2.2 illustrates that the underlying agency relationships are fundamentally different between family and non-family firms because of personalistic and particularistic behaviors in the former. This explains why agency dynamics, when evaluated as an agglomeration of information asymmetry and agent-principal objectives, lead to disagreements in family business literature. Consequently, it is necessary to examine the disaggregate effects of personalism and particularism on information asymmetry and agent-principal objectives within the family business, as linked to extant literature.

2.3 Information Asymmetry in Family Firms

Fama and Jensen (1983) suggest that family firms have insignificant agency costs because of the natural alignment between owners' and managers' roles in family businesses. Therefore, the convergence of ownership and management ensure that information asymmetry regarding the firm's resources, risk orientation and growth prospects are reduced. Subsequently, the firm's resources are not misallocated and monitoring and transaction costs are minimized (Schulze, Lubatkin, Dino, Buchholtz, 2001). Various literature in family business studies provide evidence of the positive agency effects of the convergence of information asymmetry via personalism and particularism.

2.3.1 Personalism

Le-Breton Miller and Miller (2006) suggest that the alignment of managerial and ownership information asymmetry within family firms are driven by personalism. For instance, personalism is demonstrated by a dominant family coalition that has the ability to appoint executives and directors who control major decisions. Moreover, dominant family coalitions exhibit a vested interest, motive and power to monitor the business. Finally, they tend to have a long-term involvement from long tenures, hence greater knowledge of the business, and thus contribute to the reduction of the information gap between them and lower management (Le-Breton Miller & Miller, 2006; Demsetz, 1998).

In family businesses, Kelly, Athanassiou and Crittenden (2000) demonstrate that personalism resulting from the founder and the founder's legacy is central to strategy setting, strategic management and decision-making. High founder centrality is positively related to congruence in the firm's strategic vision, behavior and goals between founder

and the top management team. Moreover, corporate culture is inexorably influenced by the personality, values and beliefs of the founding generation. Finally, founders shape the firms' interaction with the external environment. Miller and Le-Breton Miller (2005) find that these personalistic traits, which the authors collectively name as the family firm's "command priority", manifest not only in founder-led family firms, but may also be found in successful long-run family firms.

The personalism from family managers facilitates the adoption of a longer time horizon than that of non-family managers. This "patient capital" has the potential to reduce the moral hazards of combining ownership and control (Mishra, Randoy, Jenssen, 2001). Personalism from family ownership can help guarantee stability of business and long-term planning. Moreover, the dominant family coalition can make decisions more quickly and be more flexible (Le-Breton Miller & Miller, 2006; James, 1999). The dominant family coalition's long-term perspective can extend the firm's opportunities for organizational learning, growth and development. Further, longer investment horizons means families will be less tempted with myopic decisions that boost short-term profits at the cost of long-term growth (James, 1999). Family businesses invest more efficiently because they view their firm as an asset to pass on to succeeding generation (Lee, 2004). Le-Breton Miller and Miller (2006) suggest that family firms favor far-sighted and patient investments that (1) invest deeply in competencies and facilities required to attain core mission and vision of the firm, (2) invest in the people who operate such business, and/or (3) invest in sustaining relationships with outside parties such as customers, suppliers, partners, community.

James (1999) shows how a long-term horizon inextricably links personalism and particularism in family firms. The author demonstrates that the dominant family coalition's welfare extends beyond its physical presence in the business when there are potential inheritors present. This reduces their incentive to squander resources and increases their preference for long-term investment. Therefore, this characteristic of extended horizons in family firms may provide an incentive for decision makers to limit agency costs within the firm.

2.3.2 Particularism

Particularism allows family firms to align managerial and ownership information asymmetry. This flows from a kinship network that is characterized by norms of reciprocity, strong social ties, a shared identity, and a common history. (Schulze, Lubatkin & Dino, 2003; Ouchi, 1980; Moores & Mula, 2000). As discussed earlier, when there is an intention to maintain ownership within the family, there is an incentive to make investments that will benefit the subsequent generations of owners. As such, the dominant family coalition develops a long term perspective arising from long tenures and a life-long involvement in the business, which fosters profound knowledge, making them better equipped to evaluate risk and make strategic investments (Schulze, Lubatkin & Dino, 2003; Kang, 1999). Further, particularism facilitates trust, commitment and reciprocity (symmetric altruism).

Schulze, Lubatkin and Dino (2003) suggests that symmetric altruism compels parents to care for their offspring, encourage family members to be considerate with one another, and make family firm membership valuable in promoting and sustainable family bonds. This fosters a set of exchange practices with emphasis on the interest of family

members' mutual welfare. Further, this reinforces the aforementioned family bond, which in turn helps to align incentives, and reduce information asymmetries among the family firm's key decision makers. Subsequently, this results in better communication and decision-making facilitated by intimate knowledge among family members, and generates loyalty and commitment towards a long-run prosperity (Schulze, Lubatkin, Dino & Buchholtz, 2001; Chrisman, Chua & Sharma 2005; Lubatkin, Schulze, Ling & Dino 2005). Since the family's welfare is closely tied to firm performance, family members have strong incentives to monitor professional managers and reduce agency costs (Lee, 2004). Further, Lubatkin, Durand and Ling (2007) suggests that, based on a co-evolving social process, a particular form of psychosocial altruism allows families to develop norms, values, bonds and enforcements that, in turn, establish governance efficiencies. Moreover, symmetric altruism can extend to non-family employees, promoting a sense of stability and commitment to the firm among all employees (Lee, 2004).

Particularism breeds trust among family members. Trust, as a concept, is not unique to family businesses. However, Steier (2001) contends that trust plays an exceptional and distinctive role in family firm governance. In particular, trust is a key driver in achieving a sound relational governance structure within the family firm. The author explains that for family firms, trust represents a fundamental basis for cooperation within the family firm, and provides a potential source of competitive advantage. Empirical evidence shows that reliance on trust as a governance mechanism (hence a platform for relational governance) reduces transaction and monitoring costs. Gomez-Mejia, Nunez-Nickel and Guttierez (2001) describe family firms as high trust

organizations because they are governed by underlying informal agreements rather than utilitarian logic or contractual obligation. Parties under family contracting may attach value to the relationship that goes beyond the economic value created by the transaction, rather than from perceived contributions based on kinship and blood-ties. Chami (1999) shows theoretically how trust mitigates the moral hazard problem between the parents (principal) and the children (agents), raises the children's efforts and productivity, and thus enhances firm performance. Since trust induces the children to internalize the cost of their actions on the parents' welfare, it obviates the need for parents to monitor their children's work effort or to rely on incentive-based wages (Lee, 2004).

Mustakallio, Autio and Zahra (2002) suggests that as the dominant family coalition plays multiple roles in managing and governing the business, the blurring of governance and management relationships encourages a duality in the form of governance systems. These are: (1) contractual governance that provides formal controls and management supervision to minimize opportunism and alleviate information asymmetry, and (2) relational governance that provides social controls that promote social interactions to guide the management towards the family's shared vision. Relational governance, which is a function of the family's social interaction and the family's shared vision, is positively correlated with the decision-making quality of the firm (Mustakallio, Autio & Zahra, 2002). Thus, the particularistic trust and symmetric altruism that emanate from the presence and vision of the dominant family coalition are essential ingredients of relational governance. Further, relational governance minimizes information asymmetry to an extent that it renders contractual governance redundant and enables family members to achieve advantages in monitoring and disciplining decision

agents (Schulze, Lubatkin, Dino & Buchholtz, 2001; Fama & Jensen, 1983). Finally, Lubatkin, Schulze, Ling and Dino (2005) posit that the ability of the dominant family group to self-govern makes each family member a de facto owner of the firm, hence aligning their preferences for risk and growth.

2.3.3 Agency Cost-Savings from Converging Information Asymmetry

Personalism and particularism lead to a more stable management and more influential relational governance in family firms than in non-family firms. Consequently, this results in a convergence of information asymmetry among family firms. Lesser information asymmetry means that owners are less susceptible to the detrimental effects of managerial discretion (Fama & Jensen, 1983). While Graham, Harvey and Rajgopal (2005) suggest that managers are willing to give up real economic benefits in order to satisfy the implicit expectations of owners, these opportunity costs are reduced in family firms. Thus, the cost-savings from the convergence of information asymmetry between owners and managers arise from the reduction of the potential unfavorable results in managerial discretion.

Moreover, the reduction in information asymmetry via personalism and particularism in family firms also results in significant cost-savings in monitoring and other agency costs. This arises because as information asymmetry is reduced, detrimental effects of managerial discretion are also reduced such that monitoring costs can be made redundant (Lev, 1989; Wang, Swift & Lobo, 1994; Ali & Hwang, 1995; Bugshan, 2005). For instance, it has been observed that family ties between the principal and agent influence the magnitude and composition of executive pay package. There is an inverse relationship between the concentration of ownership in the hands of family members and

the compensation of family executives (Gomez-Mejia, Larraza-Kintana & Makri, 2003). Family CEOs earn less and receive less incentive pay than non-family CEOs after controlling for size and tenure (McConaughy, Matthews & Fialko 2001). Gomez-Mejia, Larraza-Kintana and Makri (2003) show that firms which invest heavily in research and development pay their executives more since "self-monitoring" rather than external monitoring becomes important under these conditions. This is because information asymmetries between managers and shareholders increase in tandem with R&D investments. However, the positive influence of R&D intensity on CEO's total compensation is lower for family firms vis-à-vis non-family firms because family ties counteract the information asymmetries associated with the greater R&D expenditure. Carney (2005) suggests that family firms' propensity to be parsimonious[4] arising from lower information asymmetries may be advantageous in environments with resource scarcity.

In summary, as personalism and particularism converge information asymmetry between principal and agent in family firms, the resultant congruence in managerial discretion leads to cost-savings from (1) direct reduction in agency threats and (2) indirect reduction in the agency costs of ameliorating these threats. Henceforth, the term *family gains* (A_G) will be used to describe these cost-savings. Subsequently, the following proposition can be postulated:

Proposition 1: Family firms have lower information asymmetry; hence attain family gains vis-à-vis non-family firms, ceteris paribus.

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[4] Thus, as a consequence of lower information asymmetries brought about by personalism and particularism, Carney (2005) suggests that family firms' propensity for parsimony may manifest as a driver for competitive advantage in family firms.

2.4 Firm Objectives in Family Firms

Family firms can be distinguished from non-family firms by the presence of their own personal needs and goals. These non-economic objectives (as defined earlier), driven by the personalism and particularism of the dominant family coalition's presence and vision, incur agency costs unique to family firms.

The manner in which agency costs arise can be viewed from a behavioral economics perspective. Behavioral economics suggest that individuals (or in the case of family firms, the dominant family coalition) are motivated by an idiosyncratic set of preferences. These preferences may be economic or non-economic in character; moreover, they may be egoistic (ie. personalism) or altruistic (ie. particularism). It follows that the dominant family coalition is driven to maximize the utility gain from each preference. Conflicts of interest arise because resource constraints prevent the dominant family coalition from maximizing its different type of preferences simultaneously, thus resulting in opportunity costs (Schulze, Lubatkin & Dino, 2003; O'Donaghue & Rabin, 2000; Lubatkin, Durand & Ling, 2007). In other words, the presence of non-economic objectives results in the difficulty of aligning various non-economic objectives of owners, and thus cannot guarantee the alignment of owners' attitudes and risk-tolerance towards growth opportunities (Schulze, Lubatkin, Dino & Buchholtz, 2001). Paradoxically, this situation is compounded by the informal relationships and governance described earlier, which reduces the formal safeguards that mitigate potential agency costs (Gomez-Mejia, Nunez-Nickel & Guttierez, 2001).

Moreover, the effects of these agency costs are more severe on minority, especially non-family, shareholders. The dominant family coalition has the power and

incentive to act in its own interests at the expense of outside shareholders. This occurs from the family stakeholders' inability to separate their own needs from the profit maximization goals of the outside shareholders and stakeholders outside the coalition.. (Shleifer & Vishny, 1997; Morck & Yeung, 2003; Chrisman, Chua & Litz 2004; Lee, 2004; Ng, 2005). Current family business literature provides a description of the negative agency effects arising from the presence of the family's non-economic objectives as driven by personalism and particularism.

2.4.1 Personalism

Carney (2005) suggests that personalism in family firms leads to executive entrenchment and its subsequent agency problems. Personalism allows the dominant family coalitions tend to be less subject to constraints relating to accountability and transparency (Morck, Shleifer & Vishny, 1988; Carney, 2005). This negative aspect of personalism subsequently translates into the phenomenon known as executive entrenchment. Schulze, Lubatkin and Dino (2003) suggest that entrenchment arises from the disproportionate power awarded to the family management stemming from personalistic familial sources. Although executive entrenchment is a phenomenon that is not exclusive to family businesses it is nevertheless more prevalent in family firms. Entrenchment issues that arise from family relational contracting are likely to increase agency costs because of the tendency of family firms to decouple the family agent's employment from performance and employment risk. This is because a relational contract between the family and family agent involves a set of mutual expectations that are more likely to be based on the family's non-economic goals and their residual effects (for instance, emotions and sentiments) than non-family contracting. Thus, family bonds

engender agency contracts that are prone to depart from economic rationality (Gomez-Mejia, Nunez-Nickel and Guttierez, 2001).

Entrenchment is more prevalent in family firms because the presence of a dominant family group can allow emotions and relationships to color the perception of competence of executives. Morck and Yeung (2003) for instance find agency problems resulting from entrenched management is common among family firms that use pyramid cross-holdings to separate ownership from control. Examples of ways executives legitimize their entrenchment include: (1) hiding or obscuring negative performance, (2) hiring consultants to legitimize decisions, (3) manipulating biased information, and (4) embarking on business strategies that capitalize on their idiosyncratic skills and abilities, thus making them irreplaceable (Gomez-Mejia, Nunez-Nickel and Guttierez, 2001).

Entrenchment may lead to significant agency costs in the form of hold-up problems. Hold-up occurs when family management, who acquire a disproportionate amount of power which emanate from their family status instead of their skills, impose their self-interest onto the firm by keeping the owners hostage (Gomez-Mejia, Nunez-Nickel & Guttierez, 2001).. Thus, entrenched family executives in the firm can make both inside and possibly outside directors beholden to them. This situation threatens the autonomy of the board and undermines the effectiveness of its oversight role. Eventually, agency costs arise when family CEOs remain in the office long after they have ceased to be effective, thus harming firm performance (Schulze, Lubatkin, Dino & Buchholtz, 2001). Further, strengthening the rights, influence and power of family management reinforces a vicious cycle towards further entrenchment, thereby having a negative impact on overall shareholders' welfare (Schulze, Lubatkin, Dino & Buchholtz, 2001;

Gomez-Mejia, Nunez-Nickel & Guttierez, 2001; Schulze, Lubatkin & Dino, 2003; Gomez-Mejia, Larraza-Kintana and Makri, 2003).

Entrenchment exacerbates adverse selection problems in family firms because of the limited career opportunities within the executive positions available to outsiders. Family firms are likely to maintain top management positions for family members rather than hiring more qualified or competent outsiders. Further, entrenched family members are capable of redistributing benefits to themselves through excessive compensation or special dividends that may adversely affect employee morale and productivity (Lee, 2004). Likewise, Morck and Yeung (2003) argue that entrenchment inhibits opportunities for more skilled non-family managers to undertake key roles within the business, and in turn allow less-skilled family-member managers to extract private benefits from ownership. Thus, adverse selection results from a smaller pool of labor market of uncertain quality (Gomez-Mejia, Nunez-Nickel & Guttierez, 2001; Schulze, Lubatkin, Dino & Buchholtz, 2001). The adverse selection problem is most severe in high R&D industries. Entrenched family firms might have difficulty accepting professional managers who are capable of responding to new technology and increased competition but rather prefer home-grown family executives. However, family management may face greater cognitive constraints in these industries resulting from a narrower market exposure, more parochial work experience, and firm-specific knowledge base (Mishra, Randoy, Jenssen, 2001; Gomez-Mejia, Larraza-Kintana and Makri, 2003). This could possibly explain why family firms tend to survive less in high technology industries (Carney, 2005).

Agency problems associated with moral hazard are aggravated by personalism-based entrenchment because family firm ownership and control may free family management from discipline and monitoring, which subsequently fosters self-control problems (Schulze, Lubatkin, Dino & Buchholtz, 2001). Examples of moral hazard problems that arise from entrenchment include (1) management's attention to short-term profit moreso than long-term goals, (2) reluctance to be innovative, (3) pursuing pet projects than enhance the executive's image, (4) focus on sales maximization at the expense of profits (empire building), and (5) consumption of executive perquisites and hubris, among others (Gomez-Mejia, Nunez-Nickel & Guttierez, 2001; Lee, 2004).

Finally, hold up, adverse selection and moral hazard agency problems that arise from entrenched family management have the tendency to cascade towards non-family management and low-level employees. This may lower employee morale and may encourage them to shirk, free-ride, and basically mimic the top management's example. Overall, Mishra, Randoy and Jenssen (2001) find that family management can enhance performance when the family influence does not create entrenchment issues, or when the family's non-economic objectives are more aligned with the firm's economic objectives.

2.4.2 Particularism

Particularism can be associated with altruism emanating from a dominant family coalition that attaches a psychological possession,to the business (Demsetz & Lehn, 1985; Carney, 2005). As discussed earlier, particularism fosters a set of exchange practices with an emphasis on the members of the dominant family group's interests. However, because these interests (including non-economic objectives) may not always align with the firm's economic objectives, the resulting asymmetric form of altruism, based on the dominant

family coalition's self-control disposition, can cause agency problems. Thus, the negative aspect of particularism manifests as asymmetric altruism. Chrisman, Chua and Sharma (2005) conceive asymmetric altruism as a detrimental self-discipline problem idiosyncratic among family firms.

Generally, asymmetric altruism takes the form of (1) informal monitoring and control mechanisms, which may result in avoiding disciplinary issues that have repercussions for familial relation within and without the firm (Schulze, Lubatkin & Dino, 2003), (2) biased judgments and perceptions on family members' decisions and actions (Gomez-Mejia, Nunez-Nickel and Guttierez, 2001; Schulze, Lubatkin & Dino, 2003), (3) non-pecuniary benefits to family members, (4) increased governance requirements due to family-based conflict (Lubatkin, Schulze, Ling & Dino, 2005), (5) diminished threat of unemployment, and (6) aversion to outside directors and external monitoring, or undermining their effectiveness (Schulze, Lubatkin, Dino & Buchholtz, 2001), among others. Lubatkin, Durand and Ling (2007) suggests that family-oriented and paternalistic forms of altruism may lead to spoiled or resentful family agents, and can give these family agents an incentive to behave opportunistically, and ultimately result in governance inefficiencies.

Similar to entrenchment, asymmetric altruism can have deleterious effects on adverse selection problems in family firms. The dominant family coalition may limit top management positions and promote within family members rather than hire outsiders even if family members are less qualified. Moreover, the dominant family coalition, spurred by non-economic family-based interests, is capable of channeling firm benefits, compensations and incentives to family members rather than employees, thus reducing

the firm's attractiveness to the labor market. Consequently, adverse selection takes the form of a smaller labor pool whose quality may be inferior to those available to non-family businesses (James, 1999; Gomez-Mejia, Nunez-Nickel & Guttierez, 2001; Schulze, Lubatkin, Dino & Buchholtz, 2001).

Asymmetric altruism alters the incentive structure of a family firm, thereby increasing its moral hazard agency costs (Schulze, Lubatkin, Dino & Buchholtz, 2001). Moral hazards that affect firm efficiency include: (1) free-riding, (2) shirking, (3) consumption of perquisites, (4) special privileges and compensation beyond industry standards, (5) secure employment for family members, (6) uneconomical risk-aversion to investments that may affect family members' future endowment (Schulze, Lubatkin & Dino, 2003), (7) entitlement to divert firm resources from profit-maximizing projects to family members' personal projects or consumption, (8) nepotism, and (9) opportunity costs arising from family conflict, among others.

Furthermore, the dominant family coalition's non-economic objectives may be contradictory to the pursuit of innovation. Morck and Yeung (2003) suggests that a key determinant of innovation and economic growth is management's willingness to undertake "creative destruction" of the firm's assets and capabilities. Because the dominant family group may internalize the destructive aftermath from this form of self-evaluation, they may have the incentive to block creative destruction as an altruistic protection to family members. Therefore, family firms may deny capital from innovative upstarts and subvert investments in innovation (Morck & Yeung, 2003).

Agency costs based on asymmetric altruism are compounded in the case of private and closely-held family firms. The combination of market illiquidity, non-

economic and emotional factors results in high exit costs from the firm. Because high exit costs make board conflict resolution more costly and magnify the sense of entitlement within the family, double moral hazard or owner opportunism, wherein hopeful family heirs become locked into a dependent relationship with the firm, occurs. Such a situation gives dependent family members an incentive to prefer consumption over investment, and preclude alternative use of funds that are consumed (Schulze, Lubatkin & Dino, 2003).

When family-controlled firms are organized into business groups and obtain outside equity financing, unique agency issues pertaining to asymmetric altruism emerge. The use of pyramidal groups to separate ownership from control in these family firms creates moral hazard problems called "tunneling" (Morck & Yeung, 2003). Tunneling or self-dealing refers to the transfer of wealth and benefits between related family-controlled firms wherein the family benefits from the transactions. In a pyramidal structure for instance, wealth from low-tier firms are transferred to firms near or at the apex wherein the family can benefit the most. This suggests that the dominant family coalition can redistribute rents from stakeholders to themselves, and those non-family stakeholders near or at the bottom of the business group suffer the greatest agency costs. Le-Breton Miller and Miller (2006) posit that the higher the ratio of family votes to family ownership, and the more the family's use of devices such as pyramiding and super-voting shares, the less likely the family firm will invest for the long-term (and prefer consumption instead).

As in entrenchment, adverse selection and moral hazard agency problems that arise from asymmetric altruism in family firms have the tendency to negatively affect the

morale and efficiency of non-family management and staff. Asymmetric altruism acts as an implicit disincentive because it is based on norms of equality and un-metered reciprocity whose benefits non-family members cannot fully participate in (Lubatkin, Schulze, Ling & Dino, 2005).

2.4.3 Agency Costs from Diverging Firm Objectives

Personalism and particularism, when combined with the presence of non-economic goals peculiar to family firms, pose the risk of developing family-related agency problems of entrenchment and asymmetric altruism. Invariably, entrenchment and asymmetric altruism warps the family management's perception of risk. Because family firms have personal wealth, undiversified human capital, and quasi-rents related to non-economic objectives tied up with the firm, they incur greater personal risk (with profound implications to future generations) as a consequence of executive action (Mishra & McConaughy, 1999; Gomez-Mejia, Nunez-Nickel & Guttierez, 2001). Combined with the fact that the family's non-economic objectives will divert resources from investments; entrenched family management would therefore prefer lower business risks than large diversified firms (Mishra & McConaughy, 1999; Gomez-Mejia, Nunez-Nickel & Guttierez, 2001). Paradoxically, although entrenched family managements are more risk-averse, they are less likely to be penalized by taking on high business risk because of hold-up issues related to family contracting.

Further, the presence of non-economic objectives provides a greater incentive for family members to maintain control over the firm (Harijono, Ariff & Tanewski, 2004; Bebchuck, 1999). Since these non-economic objectives may not be congruent with the objectives of stakeholders outside the dominant family coalition, family managers would

therefore be motivated to maintain decision-making control in order to ensure that these non-economic objectives remain within the company's agenda. This situation could lead to family firm-specific agency costs. For instance, Claessens, Djankov and Fan (2002) and Villalonga and Amit (2006) provide evidence of these costs when control rights exceed cashflow rights in family firms. Carney (2005) suggests that family firms' propensity to be parsimonious, arising from diverging firm objectives and resultant risk aversion, may be competitively disadvantageous in industries with high capital and research and development requirements[5].

In summary, personalism and particularism create divergent firm objectives and interests between principal and agent in family firms. The resultant increase in moral hazard, adverse selection, and hold-up agency threats lead to an increase in agency costs, specifically in greater opportunity costs of investments arising from the diversion of resources and lower risk tolerance exhibited by the dominant family coalition. Henceforth, the term *family costs* (F_C) will be used to describe these family-specific agency costs. Thus, the following proposition can be postulated:

Proposition 2: Family firms have greater divergence in firm objectives; hence attain family costs vis-à-vis non-family firms, ceteris paribus.

2.5 Family Gains and Family Costs in a Nutshell

It can be deduced from the discussion of *family gains* and *family costs* that the conflict in family business literature described earlier is in fact merely the paradoxical

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[5] Therefore, as a consequence of diverging firm objectives brought about by entrenchment (personalism) and altruism (particularism), Carney (2005) suggests that family firms' propensity for parsimony may manifest as a driver for competitive disadvantage in family firms.

result of various literatures describing different disaggregate aspects of the agency relationships in family firms.

On one hand, the presence of personalism and particularism inspires the convergence of ownership and management in family firms, and allows for the reduction of information asymmetry and related agency costs. On the other hand, personalism and particularism make it difficult for family stakeholders' to separate their own non-economic objectives from the profit maximizing economic objectives of the outside shareholders, and hence create family-specific agency costs. These paradoxical observations are illustrated in Figure 2.3.

Drivers of Family Business Agency Behaviors

Cost-Savings from Converging Information Asymmetry *Family Gains*	Family Group + Long-term Vision	Costs from Diverging Non-Economic Objective *Family Costs*
Leadership Stability Long-term Perspective	Personalism	Entrenchment Adverse Selection & Moral Hazard
Trust Relational Governance	Particularism	Asymmetric Altruism Adverse Selection & Moral Hazard

Figure 2.3: Effects of personalism and particularism to agency relationships.

2.6 Moderating Effects of Family Involvement

Family involvement is a crucial ingredient in the above agency dynamics. Specifically, the choice of the family firm's governance and management structures alters the conditions of information asymmetry and diverging principal-agent objectives.

Eisenhardt (1989) suggests that an evaluation of polar opposites is advantageous in theory building. In the case of agency theory, while there has been ample literature on diffusely-owned professionally-managed firms, there has until recently been a dearth of attention paid to its polar opposite, that of the family-owned and managed firms (La Porta, De-Silanes & Shleifer, 1999). Moreover, Mishra and McConaughy (1999) suggests that firms with higher levels of managerial ownership are more likely to be family controlled, thus are salient components of family firm studies. In fact, Chua, Chrisman, and Sharma (1999) suggest that the definition of family business is sometimes interpreted as family involvement in ownership and management. Ng (2005) maintains that managerial ownership is a useful proxy for family businesses in Asia.

Hence, this dissertation examines the moderating effects of managerial ownership as a special case of governance and management symmetry in family firms, in evaluating agency *family gains* and *family costs*. For an owner-manager led family firm, it is posited that the distinctiveness of these two dynamics is even more pronounced than other types of family firms. On one hand, owner-manager led family firms maximize the benefits of agency-cost savings by eliminating all information asymmetry between owner and manager within the firm; on the other, they are more susceptible to agency costs arising from the divergence between economic and non-economic objectives within the firm.

2.6.1 Information Symmetry in Managerial Ownership

Jensen and Meckling (1976) state that the cost of reducing information asymmetries and their accompanying agency threats is lowest when owners directly participate in the management of the firm. Further, Fama and Jensen (1983) assume that

separation of ownership from control is the principal source of agency costs, and therefore these costs are eliminated when the firm is managed by a single owner.

The positive effects of personalism and particularism between owners (principal) and managers (agent) are enhanced in family firms. Daily and Dollinger (1992) argue that organizations are potentially most efficient when decision-making and ownership functions are shared, since the potential for conflicting optimization paths is minimized (James, 1999). This implies that owner-manager led family firms are less prone to the detrimental effects of managerial discretion than other family firms. Mishra, Randoy and Jenssen (2001) find that family managers have the potential to reduce the moral hazards of combining ownership and control. Lee (2004) suggests that the concentration of ownership and control in family firms provides an advantageous position of monitoring the firm. Subsequently, Le-Breton Miller and Miller (2006) hypothesize that firms controlled and managed by family owners will generate more resources due to lower agency costs, and therefore will have more assets available to fund long-term investments.

Consequently, the preceding discussion suggests that managerial ownership in family firms will have an advantage in converging information asymmetry between owners and managers over other types of firms. Therefore, this suggests that owner-manager led family firms maximize the benefits of *family gains* by eliminating or reducing information asymmetry from owner-manager agency conflicts within the firm.

2.6.2 Non-economic Objectives in Managerial Ownership

Agency theory, as proposed by Berle and Means (1932), and Jensen and Meckling (1976), assumes a rational model of wealth maximization. However, behavior economics assumptions note that individual (and, it could be inferred, dominant family coalitions)

are not perfectly rational, and have idiosyncratic tastes and preferences (Schulze, Lubatkin & Dino, 2003). These preferences may be economic or non-economic in character. For instance, McMahon and Stanger (1995) and Le Cornu, McMahon, Forsaith and Stanger (1996) suggest that these preferences may be influenced by firm-specific factors that deviate from an owner-manager's wealth-maximization objective. McMahon and Stanger posit that an owner-manager's concern over a firm's risk, liquidity, diversification, transferability, flexibility, control and accountability are non-economic objectives that could influence the firm to adopt policies that are not congruent with a profit maximization objective. It is therefore difficult to simultaneously attain goal alignment and maximization of a myriad of preferences (Lubatkin, Schulze, Ling & Dino 2005). In other words, owners of widely-held firms prefer growth-oriented risking-taking with the ultimate goal of maximizing firm returns. In contrast, owner-managers define their value in terms of utility, hence, would be more amenable to taking risks commensurate with the preferences for certain outcomes, economic or otherwise (Schulze, Lubatkin & Dino, 2003). Managerial ownership, therefore, hampers the ability of stakeholders to agree on actions that affect the business (Lee, 2004). Moreover, Kelly, Athanassiou and Crittenden (2000) posit that owner-managers include their personal goals along with the strategic context in establishing the family firm's business strategy. The authors also suggest that goals related to family roles may tend to take equal or greater importance than maximizing profits. This may then result in a negative effect on the firm's performance despite a positive effect on the performance of the family's objectives.

When owner-managers (agents) advance the family's interest at the expense of stakeholders outside of the dominant family coalition (principals), the negative effects of personalism and particularism exacerbate agency cost problems (Schulze, Lubatkin, Dino & Buchholtz, 2001). This implies that owner-manager led family firms have more undiversifiable personal risks in the business than other family firms. Further, managerial ownership reduces the effectiveness of external control mechanisms and exposes the firm to a self-control problem created by incentives that allow owner-managers unchallenged discretion over the use of the firm's assets, potentially resulting in greater agency problems (Lubatkin, Schulze, Ling & Dino 2005; Mishra, Randoy & Jenssen, 2001).

Based on these analyses, it can be posited that owner-manager led family firms are more susceptible to divergent non-economic objectives between family and non-family stakeholders than other types of firms. When family stakeholders expropriate value from the family firm, non-family stakeholders are adversely affected, hence giving rise to agency conflict. Thus, especially from the point-of-view of stakeholders not belonging within the dominant family group, it is posited that the additional non-economic objectives pursued by owner-manager led family firms exacerbate *family costs* within the firm.

2.6.3 Summary

As a special case wherein ownership and management is unified, managerial ownership in family firms is viewed as having the maximum levels of *family gains* and *family costs*. As such, the following proposition is posited:

Proposition 3: Family gains and family costs are greater in family firms under managerial ownership vis-à-vis other family firms, ceteris paribus.

2.7 Agency Trade-offs in Family Firms

From the above discussion of agency theory, it is evident that family firms' principal-agency conflict is more complex than non-family firms. Initially, *family gains* and *family costs* were deduced individually. In this section, the joint effects of *family gains* and *family costs* within the family firm is evaluated. Since, as discussed under Proposition 3, the levels of *family gains* and *family costs* among family firms differ across varying levels of ownership and management dominance, it can be posited that the effects from the trade-off between *family gains* and *family costs* on family firms differ across these same factors. This section begins its analysis by focusing on the simplest form ownership and management relationship, the owner-manager led family firm. Thus, assuming that the dominant family coalition is personified by an owner-manager, the agency dynamic is then captured by the following corollary:

Corollary: An owner-manager will not undertake any action that is perceived to be adverse to the economic objectives of the family business; unless there are sufficient non-economic objective incentives to do so.

Consistent with the earlier discussion, this corollary implies that for a family firm with an owner-manager, there is zero agency costs related to the firm's economic objectives due to zero information asymmetry between owner and manager. When compared equally to a non-family firm, the family firm will have potential cost-savings resulting from zero agency costs, ceteris paribus, hence attaining *family gains*.

It can also be surmised from this corollary that for a family firm with an owner-manager, actions detrimental to the economic objective of the firm (ie. agency costs) wholly stem from diversion of resources towards non-economic incentives. Concurrently,

the loss of value that arises when an owner-manager pursues non-economic objectives of the business relate to *family costs.*

The above corollary suggests that for an owner-managed family firm, all agency costs and cost-savings are purely *family costs* and *family gains,* respectively. Consequently, it is possible to analyze owner-manager family firms' agency dynamic by comparing them against non-family firms under economic modeling. This corollary can be analyzed under a two-period utility maximization model.

2.7.1 Welfare of the Non-family Firm

For a non-family firm, the two-period utility maximization model was first proposed by Fisher (1930). Since this model is already broadly known, it is presented, as described by James (1999), in Appendix 1. This model suggests that economic objectives are the overarching driver of utility in widely-held non-family firms. Figure 2.4 illustrates this condition:
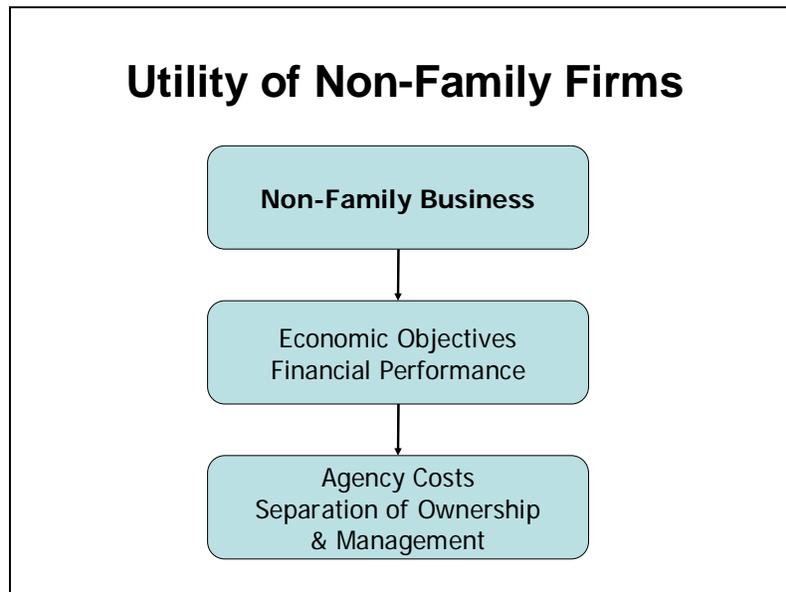
Figure 2.4: Drivers of utility in widely-held non-family firms

2.7.2 Welfare of the Family Firm

This study posits that family firms are intrinsically different from non-family firms such that the two-period welfare model presented in Appendix 1, which describes the dynamics within widely-held non-family firms, will also be different for family businesses. For family firms, the presence of *family gains*, *family costs* and the utility of the family's non-economic objectives alters the profit-maximization function of the welfare model from Appendix 1. Thus, based on the aforementioned model, it is possible to incorporate these family-based factors to observe how the utility of family firms will differ from those of widely-held non-family firms. From our earlier governance assumption, consider the utility function of a family firm, represented by an owner-manager. It is assumed that Wealth (W) of the firm is limited such that the owner-manager will need to trade-off consumption today between the business' needs (economic objectives) and the family's needs (non-economic objectives). Further, α is a weighting factor that represents the owner-manager's relative preference for the latter over the former. C_1^* represents the firm's total consumption today of both economic and non-economic objectives. Thus, when $\alpha = 1$, C_1^* represents the total consumption of the family's non-economic objectives. Likewise, when $\alpha = 0$, C_1^* represents the business' economic needs today. Consequently, it can be surmised that $(1-\alpha) \cdot C_1^*$ and $\alpha \cdot C_1^*$ are the family firm's compromise of the current period's consumption between economic and non-economic objectives, given wealth constraints.

From the firm's point-of-view, the family's consumption of the firm's resources is an agency burden borne by the firm. It is a value that is related to the combination of agency cost-savings and agency costs arising from the family pursuing its family (non-

economic) objectives. Therefore, $\alpha \cdot C_1 *$ can be viewed as the family firm's agency costs over its agency cost-savings. In other words, for an owner-managed firm this can be expressed as:

$$\alpha \cdot C_1 * = F_C - A_G$$

The above relationship for family firms can be incorporated into the two-period model discussed in Appendix 1, given:

$U(C_1^*, C_2^*)$ utility function for consumption (C) in period 1 (now) and 2

(future) for the family firm's owner-manager;

$v(C_1^*)$ The family firm (owner-manager)'s utility function for the

preferred non-economic consumption in period 1;

W wealth;

K investment in firm;

W-K consumption;

F(K) return on investment;

(1+d) subjective discount factor;

(1+r) market discount factor;

α relative preference of owner-manager for family needs over

the business;

A_G family gains;

F_C family costs;

$\alpha \cdot C_1 *$ *family costs* (F_C) - *family gains* (A_G).

The owner-manager's utility function can be modeled as follows:

$$U(C1^*, C2^*) = u((1-\alpha) \cdot C1^*) + v(\alpha \cdot C1^*) + \frac{u(C2^*)}{(1+d)} \qquad \text{(equation 2.1)}$$

This assumes that the standard economic condition of diminishing returns in utility holds.

This equation is maximized subject to a budget constraint:

$$(1-\alpha)C1^* + (\alpha)C1^* + \frac{C2^*}{(1+r)} = W - K + \frac{F(K)}{(1+r)} \qquad \text{(equation 2.1a)}$$

Or as simply:

$$C1^* + \frac{C2^*}{(1+r)} = W - K + \frac{F(K)}{(1+r)} \qquad \text{(equation 2.1b)}$$

Taking the lagrangian process for the choice variables:

$$\underset{\ell}{(C_1, C_2, K)} = u((1-\alpha) \cdot C1^*) + v(\alpha \cdot C1^*) + \frac{u(C2^*)}{(1+d)} - \lambda\left(C1^* + \frac{C2^*}{(1+r)} - W + K - \frac{F(K)}{(1+r)} \right)$$

(equation 2.2)

Taking first order conditions of $\dfrac{\partial \ell}{\partial C_1^{\,*}}$:

$$\frac{\partial \ell}{\partial C_1^{\,*}} = (1-\alpha) \cdot u_1^{\,*} + \alpha \cdot v_1^{\,*} - \lambda = 0$$

$$(1-\alpha)u_1^{\,*} + \alpha \cdot v_1^{\,*} - \lambda = 0$$

$$(1-\alpha)u_1^{\,*} + \alpha \cdot v_1^{\,*} = \lambda \qquad \text{(equation 2.2a)}$$

Where:

$$u_1^{\,*} = u'[(1-\alpha) \cdot C_1]$$

$$v_1^{\,*} = v'[(\alpha) \cdot C_1]$$

Taking first order conditions of $\dfrac{\partial \ell}{\partial C_2{}^*}$

$$\frac{\partial \ell}{\partial C_2{}^*} = \frac{u_2{}^*}{(1+d)} - \lambda\left(\frac{1}{(1+r)}\right) = 0$$

$$\frac{u_2{}^*}{(1+d)} = \lambda\left(\frac{1}{(1+r)}\right)$$

$$\lambda = \left(\frac{u_2{}^*(1+r)}{(1+d)}\right) \qquad\qquad \text{(equation 2.2b)}$$

Where:

$$u_2{}^* = u'(C_2)$$

Taking first order conditions of $\dfrac{\partial \ell}{\partial K}$

$$\frac{\partial \ell}{\partial K} = -\lambda\left(1 - \frac{F_k}{(1+r)}\right) = 0$$

$$F_k = (1+r) \qquad\qquad \text{(equation 2.2c)}$$

Combining the terms in the investment equations (equation 2.2a) and (equation 2.2b):

$$\left[\alpha \cdot v_1{}^* + (1-\alpha)u_1{}^*\right] = \left(\frac{u_2{}^*(1+r)}{(1+d)}\right)$$

When combined with (equation 2.2c), results in:

$$(1+r) = \frac{\left[\alpha \cdot v_1{}^* + (1-\alpha)u_1{}^*\right]}{u_2{}^*}(1+d)$$

Results in:

$$F_k = \frac{\left[\alpha \cdot v_1{}^* + (1-\alpha)u_1{}^*\right]}{u_2{}^*}(1+d)$$

Note that when d=0, the manager does not prefer to consume today or in the future:

$$F_k = \frac{\left[\alpha \cdot v_1{}^* + (1-\alpha)u_1{}^*\right]}{u_2{}^*}$$

Subsequently, the family firm's welfare function is evaluated under different family trade-off scenarios. These scenarios are examined from the perspective of the business' stakeholders who are interested in the outcome of the economic objectives of the firm.

2.7.2.1 Case 1 [α=0]

Observe that when *family gains* (A_G) equals *family costs* (F_C):

$$F_c - A_g = 0, \quad \text{then}$$

$$\alpha \cdot C_1{}^* = 0, \quad \text{and hence } \alpha = 0.$$

The $\alpha \cdot v(C1^*)$ and $\alpha \cdot C_1{}^*$ terms cancel out in equation 2.2, which transforms into equation 1.2. This means that the family's consumption is exactly satisfied by the firm's *family gains* (A_G) such that there is no further agency burden to the firm. Subsequently, the model can be optimized to result in equation 1.3. In other words, when *family gains* and *family costs* are equal, family firms behave similarly to that of ordinary non-family firms.

2.7.2.2 Case 2 [α>0]

If *family costs* (F_C) are greater than *family gains* (A_G), observe that:

$$F_c - A_g > 0, \quad \text{then}$$

$\alpha \cdot C_1 * > 0$, and hence $\alpha > 0$.[6]

When compared against the utility function of a non-family firm, the family firm is unable to derive the same utility from its current consumption, without sacrificing future consumption. The optimal investment function for both family firm and non-family firm can be compared as $F_k = \dfrac{\left[\alpha \cdot v_1{}^* + (1-\alpha)u_1{}^*\right]}{u_2{}^*} = \dfrac{u_1}{u_2}$ respectively. When $(1-\alpha)u_1{}^* = u_1$, then $u_2{}^* > u_2$, and likewise $C_2{}^* < C_2$. Thus, the family firm will have to consume less in the future period in order to attain the same utility as a non-family firm in the current period from a business perspective. Therefore, in terms of the businesses' economic objectives, family firms are worse off than non-family firms when $\alpha > 0$.

Concurrently, this implies that the family firm is worse off than the non-family firm when *family costs* (F_C) are greater than *family gains* (A_G). Moreover, this implies that there is a need to satisfy two distinct utility functions (the economic and non-economic objectives) for family firms, instead of only one (the economic objectives) for non-family firms.

This is intuitively verified with an analysis of the budget constraints:

$$(1-\alpha)C1^* + (\alpha)C1^* + \frac{C2^*}{(1+r)} \text{ and } C1 + \frac{C2}{(1+r)}$$

for the family and non-family firm respectively. When $\alpha > 0$, then $(1-\alpha)C1^* < C1$ if $C2^* = C2$; and conversely, $C2^* < C2$ if $(1-\alpha)C1^* = C1$. Such findings are consistent with proposition 2.

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[6] It can be reasonably assumed that $X \geq 0$ since X is the family's preferred consumption of the firm's wealth today. When X is negative, this suggests the family is infusing wealth (or capital) into the firm which would increase the value of W. Thus, a negative value of X can simply be viewed as $X = 0$ and a greater value for W.

2.7.2.3 Case 3 [α<0]

Finally, if *family gains* (A_G) are greater than *family costs* (F_C), observe that:

$$F_c - A_g < 0, \text{ then}$$

$\alpha \cdot C_1 * < 0$,and hence $\alpha < 0$.

When compared against the utility function of a non-family firm, the family firm has the ability to derive the same utility from its current period's business consumption while increasing future consumption. The optimal investment function for both family firm and non-family firm can be compared as:

$$F_k = \frac{\left[\alpha \cdot v_1^* + (1-\alpha)u_1^*\right]}{u_2^*} = \frac{u_1}{u_2}$$

respectively. When $(1-\alpha)u_1^* = u_1$, then $u_2^* < u_2$, and likewise $C_2^* > C_2$. Thus, the family firm will be able to consume more in the future period while maintaining the same welfare as a non-family firm in the current period from a business perspective. Therefore, in terms of the business' economic objectives, family firms are better off than non-family firms when $\alpha < 0$.

Concurrently, this implies that the family firm is better off than the non-family firm when *family costs* (F_C) are less than *family gains* (A_G). This is intuitively validated with an analysis of the budget constraints:

$$(1-\alpha)C1^* + (\alpha)C1^* + \frac{C2^*}{(1+r)} \text{ and } C1 + \frac{C2}{(1+r)}$$

for the family and non-family firm respectively. When $\alpha < 0$, then $(1-\alpha)C1^* > C1$ if $C2^* = C2$; and conversely, $C2^* < C2$ if $(1-\alpha)C1^* = C1$. This implies that the firm will be able to consume more for today than what is optimally required by the business. In

general, this means that family firms are wholly better off than non-family firms when *family gains* (A_G) are greater than *family costs* (F_C) because they will attain excess gains to supplement their overall wealth ($W + |\alpha \cdot C1*|$) or greater investment opportunities. Such findings are consistent with proposition 1.

Figure 2.5 illustrates economic objectives and non-economic objectives as the drivers of utility in family firms.
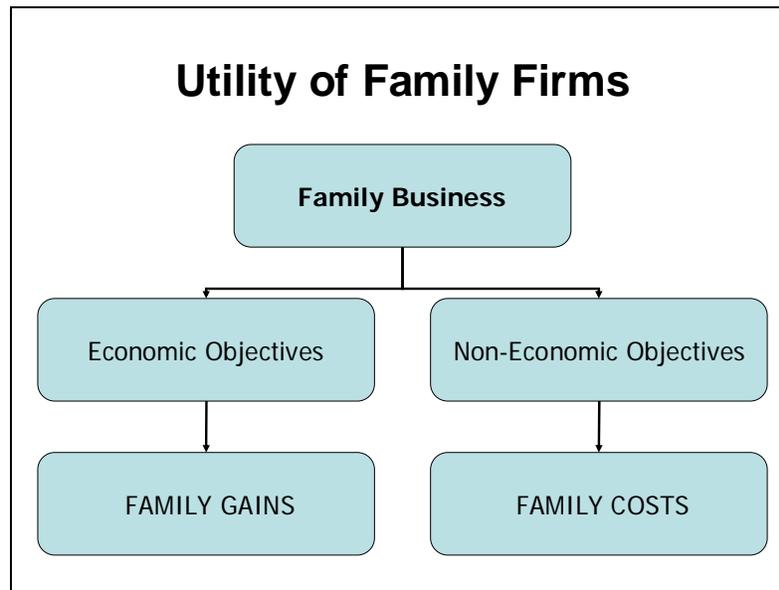
Figure 2.5: Drivers of utility in family firms

Thus, from the above examination, it can be inferred that the distinctive mix between *family gains* and *family costs* observed from owner-manager led family firms lead to either advantages or disadvantages unique from one firm to another. Initially, agency trade-offs were analyzed under the lens of managerial ownership to disaggregate *family gains* and *family costs* from the principal-agent dynamics and model them under a two-period model. However, it can be inferred that although the study initially isolates *family gains* and *family costs* from owner-manager led family firms, agency trade-offs are indigenous to all family firms because the conditions that allow these relationships to

exist (primarily personalism, particularism and non-economic utility) can be found in all types of family businesses.

The trade-off between these agency cost-savings and costs (A_G - F_C) results in competitive advantages (if *family gains* are larger than *family costs*; A_G > F_C) or disadvantages (if *family gains* are less than *family costs*; A_G < F_C) for a family firm vis-à-vis a non-family firm (all else being equal). Such an analysis is compatible with the resource-based perspective of the family business.

2.7.3 Integrating Agency Trade-offs and RBV

The resource-based view in family business describes the unique and inimitable resources in family firms essential in developing competitive advantages against non-family firms. When a family firm's *family gains* exceed *family costs*, the resultant competitive advantages against rival firms (ceteris paribus) over a sustained period of time can be viewed as a particular type of this *familiness* resource.

Mathematically, such a relationship can be expressed as:

1. When A_G > F_C for the family firm;

2. Then A_G - F_C = Competitive Advantage for the family firm;

3. And as $t \rightarrow \infty$, where t = time;

4. Then $\sum (A_{Gt} - F_{Ct})$ = Sustainable competitive advantage for the family firm.

On the flipside, sustained competitive disadvantage against rival firms occurs when a family firm's *family costs* exceed *family gains* over an extended period of time, and can be viewed as a resource favoring the rival firm.

Conceptually, in an owner-manager led family firm, the overlap of ownership and management may create advantages from streamlined and efficient monitoring systems,

lower administrative costs, and speedy decision making (Poza, 2006). When these advantages continually surpass family costs pertaining to non-economic objectives of the family firm, then the family firm has a sustainable competitive advantage over an equal non-family firm that does not have access to such cost-savings. Such a sustainable competitive advantage could in part explain why family businesses have been found to consistently outperform non-family businesses (Anderson & Reeb, 2003).

Other family business literature has suggested there is a significant link between the agency and resource-based framework (Chrisman, Chua & Sharma, 2005; Dyer, 2006; Blanco-Mazagatos, Quevedo-Puente & Castrillo 2007). Indeed, Blanco-Mazagatos, Quevedo-Puente and Castrillo (2007) recommend the combination of both the agency view and the resource-based view in studying family business phenomena. The implication of the agency trade-off approach proposed in this dissertation is that it is possible to define agency theory as a subset, albeit an essential one, of the resource-based framework. To a certain extent, agency trade-offs give rise to the conditions necessary for family firms to develop *familiness* resources. This in turn becomes the source of the firms' sustainable competitive advantage. Based on Habbershon's (2006) ecosystem *familiness* approach, *family gains* and *family costs* can be viewed as *f+ familiness* and *f- familiness* respectively. In RBV parlance, positive agency trade-offs result in capabilities that provide *familiness* resources necessary in establishing competitive advantages. This validates agency trade-offs as part of the family business ecosystem. Further, this implies that family firms with governance strategies might really be able to develop resources that enable sustained competitive advantages. In other words, manipulation of agency

relationships in family firms can be viewed as the means (agency trade-offs) to an end (RBV competitive advantage).

2.7.4 Mean-reversion of Agency Trade-offs

The above discussion has shown that it is possible for family firms to have competitive disadvantages resulting from lower family gains vis-à-vis family costs ($A_G <$ F_C). However, in a highly competitive environment, it is unlikely such a sustained competitive disadvantage would be allowed to perpetuate across time. Lubatkin, Schulze, Ling and Dino (2005) suggest that family firms that reach the third generation are products of selection bias and have managed to put systems in place to avoid such sustained competitive disadvantages. This suggests that sustainable competitive advantages that arise from agency trade-offs can only diminish up to a point wherein family gains equals family costs or ($A_G - F_C = 0$). Therefore, the following can be posited that a family firm cannot sustain competitive disadvantage in governance ($A_G < F_C$) indefinitely.

Similar to an investor holding a liquidation option on an investment, family businesses will not tolerate a sustained competitive disadvantage over a period of time. Owners and members of the family beholden to the business will have an option to either: (1) close down the family business, (2) have some members sell off, (3) split the business, or (4) adopt governance measures that would essentially transform the business into a professionalized business. In other words, a family business with sustained $A_G < F_C$ either dies off, becomes a non-family business, or finds a fit that would create a congruence towards an $A_G > F_C$ or $A_G = F_C$ equilibrium. From a portfolio perspective, a collection of family firms should behave as having an $A_G > F_C$ or $A_G = F_C$ equilibrium in the long-run.

This selection bias view of the family firm is consistent with Jensen's (2001) enlightened stakeholder theory, which suggests that the organizational structure of the firm adopts the long-term value maximization of its various stakeholders. Consistent with this notion, Blanco-Mazagatos, Quevedo-Puente and Castrillo (2007) provide empirical evidence to show that family firms have a progressive bias towards adopting resource structure conditions similar to non-family firms over succeeding generations. The following proposition encapsulates the preceding concepts:

Proposition 4: In competitive environments, the trade-off between the family gains and family costs of a family firm result in competitive advantages against rival non-family firms, ceteris paribus.

2.8 Moderating Effects of Family Involvement

So far, the previous discussions have highlighted the distinctive qualities of family business over non-family business under static governance circumstances. Moreover, it was earlier suggested that agency trade-offs are indigenous to all family firms without elaborating on the conditions that moderate these agency dynamics. However, extant literature suggests that the performance of family firms differ across varying definitions and levels of family involvement (Miller, Le Breton-Miller, Lester & Cannella, 2007; Villalonga & Amit, 2006). Clearly, the degree to which families influence and are involved within the business moderates the behaviour and performance of family firms.

The level of family influence within a firm varies, thus leading to differing levels of personalism and particularism, and hence, differing levels of agency gains and agency costs among different family firms. The model in Section 2.6 utilizes managerial

ownership within family firms as a proxy for a high degree of family involvement with the notion that as the dominant family coalition undertakes more roles within the business, the more involved and influential they become (Mustakallio, Autio & Zahra, 2002; Jaskiewicz & Klein, 2007). Hence, by relaxing the initial assumption of managerial ownership, it is possible to highlight the effects of the varying degrees of family involvement. Consequently, the following question is analyzed: what is the agency trade-off environment when this initial assumption of the owner-manager led family firm is relaxed?

Agency trade-off analysis provides a conceptual notion of how owner-manager led family business outperforms non-family firms. Research into the performance of founder-led firms such as James (1999), Villalonga and Amit (2006) and McConaughy, Matthews and Fialko (2001), among others, provides empirical evidence to support this concept. In a related vein, Miller, Le-Breton Miller, Lester and Cannella (2007) suggest that only lone-founder businesses exhibit superior market valuation performance. Morck, Shleifer and Vishny (1988) indicate that the relationship between agency costs and managerial ownership is curvilinear. The authors find evidence to suggest that agency problems are most severe in the midrange of managerial ownership distribution. They argue that in this range, owner-managers enjoy sufficient power to pursue their own personal (for instance, the family's non-economic) objectives at the expense of other shareholders, with relatively less harm to their own cashflow rights than owner-managers who have higher concentration of ownership. In a family business context, this can be rationally viewed as: the trade-off between *family gains* and *family costs* will approach to negative as family interests in the firm decrease. On the other end of the spectrum, as

concentration of ownership becomes more highly-diffused, professionalization of the firm's governance eliminates potential *family costs*, albeit at the expense of potential *family gains*. For instance, Blanco-Mazagatos, Quevedo-Puente and Castrillo (2007) illustrate that agency costs advantages progressively disappear as the concentration of family ownership is diffused over time. This lends credence to the notion that when assumption of managerial ownership as the form of family firm governance is relaxed, agency trade-off relationships vary across different forms of governance at a diminishing rate comparative to the concentration of family ownership and management.

Proposition 5: Sustained competitive advantages from the trade-off between family gains and family costs diminish as family ownership and/or family management in the firm decrease.

Empirical evidence of the performance effects of the family's leadership in governance and management roles is mixed. Steier (2001) suggests that when governance and management roles within the family firm reside among separate family members, it is possible to sustain positive agency trade-offs ($A_G > F_C$) albeit competitive advantages are somewhat depleted. Villalonga and Amit (2006) provide empirical evidence that when governance and management roles within the family firm reside in a family member and a non-family member respectively, either ($A_G > F_C$) if the firm is founder led or ($A_G = F_C$) if the firm is non-founder led, is observed. Finally, when governance and management roles within the family firm reside in a non-family member and a family member respectively, Randoy and Goel (2003), and Villalonga and Amit (2004) both provide empirical evidence that ($A_G < F_C$) is generally observed among family businesses. Table

2.1 summarizes this synthesis of agency trade-offs and extant empirical literature in family firm governance.

Table 2.1. Literature on family firm governance and inferred agency trade-off

Authors	Governance and Management Roles in Family Firms	Agency Trade-off Inferred
Miller, Le-Breton Miller, Lester & Cannella (2007)	Lone Founder	$(A_G > F_C)$
Steier (2001)	Family member Chairman and Family member CEO	$(A_G > F_C)$
Villalonga & Amit (2006)	Family member Chairman and Non-family member CEO	$(A_G > F_C)$ or $(A_G = F_C)$
Randoy & Goel (2003) Villalonga & Amit (2006)	Non-family member Chairman and Family member CEO	$(A_G < F_C)$

It is necessary to note that several factors may play an important moderating role to this relationship. First, the level of successor commitment, and hence, the family's lifecycle, may affect the level and quality of family involvement within the business. Sharma and Irving (2005) argue that the type of successor commitment (affective, normative, calculative and imperative) produce differing types of discretionary behaviours. In turn, this will lead to varying levels of firm performance and effectiveness. Empirical findings from Villalonga and Amit (2006), Miller, Le-Breton Miller, Lester and Cannella (2007) and Blanco-Mazagatos, Quevedo-Puente and Castrillo (2007), among others, support this notion.

Second, the family firm's business and legal environment may affect the family's involvement within the firm. La Porta, De-Silanes and Shleifer (1999) argue that the quality of shareholder protection moderates the level of family ownership within a certain

country or territory. Countries with poor investor protection tend to have controlling shareholders who wield greater control rights than cashflow rights. This implies that in countries with weak legal rules for protecting minority shareholders, *family cost* related agency problems is exacerbated. The empirical findings detailed above were undertaken in countries in which there is an environment of strong legal protection. On the other hand, Ng (2005) provides empirical evidence that for Hong Kong, which she argues has less a developed legal environment, agency problems are least severe in the mid-range of the managerial ownership spectrum. Agency costs are severe under managerial ownership since owner-managers face less legal obstacles to pursue their non-economic objectives and expropriate wealth from other stakeholders. Likewise, agency costs are also severe under a widely-held professionally managed governance structure since managers have less legal obstacles to obtain private benefits at the expense of owners. Interestingly, although also curvilinear, these findings are opposite than that of Morck, Shliefer and Vishny's (1988) results.

2.9 Assumptions and Limitations

This research adopts Chua, Chrisman and Sharma's (1999) definition of the family business. The presence of the dominant family group and their future vision is necessary to highlight the personalistic and particularistic behaviors in family agency relationships. Birley (2002, 2003) finds that family businesses worldwide can be clustered into two groups. Firms under the Family-In group believe that the business is stronger with the family members involved. Firms under the Family-Out group believe that the family should not be involved with the business whatsoever. Chua, Chrisman and Sharma's (1999) definition is more consistent with the Family-In cluster. Subsequently, it

is interesting to see how family firm behavior and hence, agency relationships suggested above, interacts with the Family-Out cluster. This also, opens further avenues for future research.

This conceptual research may be limited by endogeneity issues. This pertains to the problem of establishing causality. Specifically, family firm value could be a determinant of the ownerships structure and behavior rather than being determined by it (Ng, 2005). To establish causality, empirical tests such as linear regression analysis on dependent variables adequately representing *family gains* and *family costs* against independent variables such as family ownership, lifecycle stage and family governance strategies is incorporated in the succeeding research design.

2.10 Summary

As illustrated in Figure 2.6, this chapter is conceptually organized as follows:
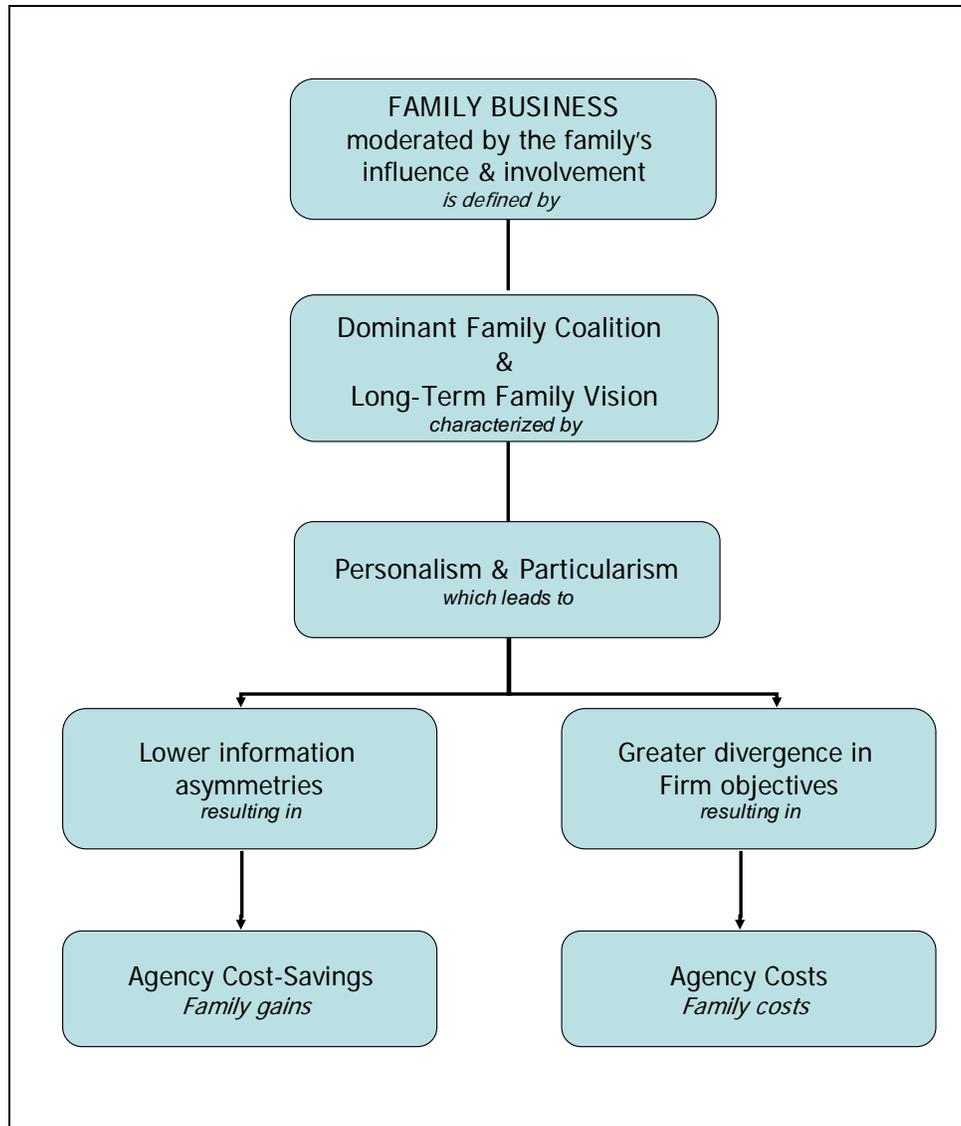
Figure 2.6: The Agency Ttade-off Model: Conceptual framework of the study.

This study suggests that agency relationships in family firms are different and more complex than those in non-family firms. Family firms' personalistic and particularistic behavior influences the convergence of information asymmetry, and divergence of conflicts in interest and objectives, vis-à-vis non-family firms. Their effects can be disaggregated into *family gains* and *family costs* which are then jointly evaluated under an Agency Trade-off Model. Subsequently, the family's personalism and particularism can be managed to attain competitive advantages from agency trade-offs.

From a resource-based viewpoint, these imply that family firms that develop strategies in firm governance may be able to extract resources and capabilities necessary in building sustainable competitive advantages. The Agency Trade-off Model, therefore, provides the link that integrates the agency framework and resource-based view in family firms.

The following table summarizes the propositions and the accompanying corollary posited in this paper.

Table 2.2 Summary of Propositions

Proposition	Description
Proposition 1	Family firms have lower information asymmetry; hence attain family gains vis-à-vis non-family firms, ceteris paribus.
Proposition 2	Family firms have greater divergence in firm objectives; hence attain family costs vis-à-vis non-family firms, ceteris paribus.
Proposition 3	Family gains and family costs are greater in family firms under managerial ownership vis-à-vis other family firms, ceteris paribus.
Corollary	An owner-manager will not undertake any action that is perceived to be adverse to the economic objectives of the family business; unless there are sufficient non-economic objective incentives to do so.
Proposition 4	In competitive environments, the trade-off between the family gains and family costs of a family firm result in competitive advantages against rival non-family firms, ceteris paribus.
Proposition 5	Sustained competitive advantages from the trade-off between family gains and family costs diminish as family ownership and/or family management in the firm decrease.

Chapter 3. Research Design

3.1 Introduction

The prior two chapters identified agency theory in family firms as a critical link in family business research, and provided a theoretical framework, via managerial ownership, to conduct empirical analysis of family firms' agency dynamics. This chapter describes the research method used in empirically testing propositions established in the previous chapters.

Chapter 3 proceeds as follows: Section 3.2 provides an overview of the research design. Section 3.3 describes the sample period, sample selection and data collection procedures employed in the research method. Section 3.4 details the operationalization of the constructs used to test the hypotheses. Section 3.5 highlights the statistical techniques to be undertaken in the research. Finally, Section 3.6 summarizes the chapter.

3.2 Research Design

The propositions set out in the previous chapters lay the foundations for the subsequent empirical testing of six hypotheses. Our earlier analysis suggests that the presence of a dominant family coalition and family vision provide sufficient and necessary conditions for family firms to develop personalistic and particularistic behaviors. These behaviors lead to the formulations of Proposition One and Proposition Two. Proposition One suggests that personalism and particularism reduces information asymmetry in family firms and generate agency-cost savings (*family gains*). Proposition Two suggests that personalism and particularism engender non-economic objectives and hence and generate agency-costs (*family costs*). Proposition Three describes a special case wherein *family gains* and *family costs* are at optimal levels when family involvement

in governance and management is unified. Proposition Four suggests the interaction between *family gains* and *family costs*, in the long-run, creates sustainable competitive advantages that explain why family firms perform differently than non-family firms. Finally, Proposition Five suggests that family firms under managerial ownership will have greater *family gains* and *family costs* than other types of family firms.

Consequently, the research design utilizes six hypotheses to test the validity of these propositions within an Australian business setting. Hypothesis 1a seeks to show that *family gains* are significantly observable among family firms, as described in Proposition One. Conversely, Hypothesis 2a seeks to show that *family costs* can be observed among family firms, as described in Proposition Two. Hypothesis 1b attempts to identify the incremental *family gains* in managerial ownership described in Proposition Three. Hypothesis 2b specifically deals with isolating the incremental effects of managerial ownership on *family costs* that is likewise described in Proposition Three. Hypothesis 3a is a conditional hypothesis dependent on the results of Hypothesis 1a and 2a. This hypothesis may show whether the presence of *family gains* and/or *family costs* translate in performance differences between family and non-family firms, as described in Proposition Four. Finally, Hypothesis 3b is a conditional hypothesis that tests for the incremental agency trade-off effects of managerial ownership in family firms, consistent with Proposition Five. Subsequently, this study performs inductive validations of these propositions utilizing statistical analysis on ex-post facto archival data. Figure 3.1 illustrates the links between the theoretical propositions and, as will be discussed in further detail in later sections, the empirical hypotheses.
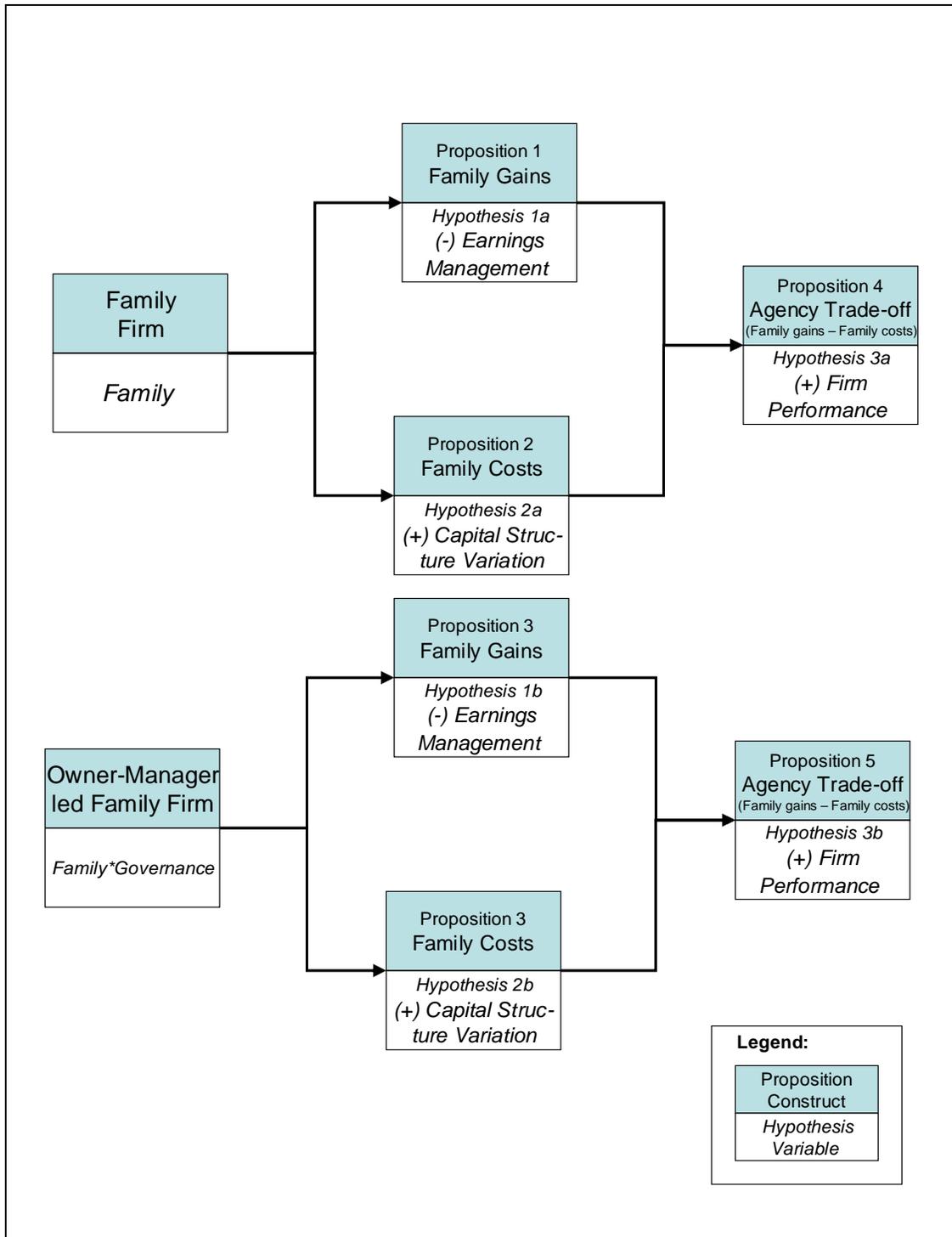
Figure 3.1: Conceptual propositions and empirical hypotheses.

Subsequently, Table 3.1 illustrates the causal relationship between the independent and dependent variables within these theoretical hypotheses. These relationships are further explained in the succeeding sections.

Table 3.1 Causal relationships of variables within hypotheses

Hypothesis	Test Relationship	Description
Hypothesis 1a: Family firms positively influence *family gains* from lower earnings management than that of non-family firms.	Family Owner-ship → Earnings Management (-)	Family ownership (independent variable) reduces the level of earnings management (dependent variable) among firms.
Hypothesis 1b: Family firms under managerial ownership have greater *family gains* from lower earnings management than other family firms.	Family Owner-ship → Earnings Management (-) ↑ Managerial Ownership	Family ownership, moderated by managerial ownership, (independent variable) reduces the level of earnings management (dependent variable) among family firms.
Hypothesis 2a: Family firms positively influence *family costs* from higher capital structure variation than that of non-family firms.	Family Owner-ship → Capital Structure Variation (+)	Family ownership (independent variable) increases the capital structure variation (dependent variable) among firms.
Hypothesis 2b: Family firms under managerial ownership positively influence *family costs* from higher capital structure variation than that of other family firms.	Family Owner-ship → Capital Structure Variation (+) ↑ Managerial Ownership	Family ownership, moderated by managerial ownership, (independent variable) increases the capital structure variation (dependent variable) among firms.
Hypothesis 3a: Family firms have higher performance measures than non-family firms, consistent with the outcome of Hypotheses 1a and 2a.	Family Owner-ship → Firm Performance Measure (+)	Family ownership (independent variable) increases firm performance (dependent variable) among firms.
Hypothesis 3b: Family firms under managerial ownership have higher performance measures than other forms of family firms, consistent with the results of Hypotheses 1b and 2b.	Family Owner-ship → Firm Performance Measure (+) ↑ Managerial Ownership	Family ownership, moderated by managerial ownership, (independent variable) increases firm performance (dependent variable) among firms.

3.2.1 Family Gains Construct

The presence of *family gains* in family firms is identified via Hypothesis 1a. Moreover, the presence of incremental *family gains* in owner-manager family firms over other family firms is identified via Hypothesis 1b.

Family gains is operationalized in this research as *earnings management*. Earnings management is the outcome of some discretion and flexibility in decision-making managers have in reporting their financial performance (Bugshan, 2005). Measurement of earnings management represents the cost-savings that accrue from a convergence in information asymmetry among owners and managers. *Family gain* drivers such as lower monitoring costs, leadership stability and relational governance create cost-savings because information asymmetry convergence reduces the threat of detrimental managerial discretion in decision-making. For public companies, a key area of discretion managers exercise authority on is accounting discretion, which can be empirically tested as earnings management (Graham, Harvey & Rajgopal, 2005).

The subsequent hypotheses can be expressed as:

Hypothesis 1a: Family firms positively influence *family gains* from lower earnings management than that of non-family firms.

Hypothesis 1b: Family firms under managerial ownership have greater *family gains* from lower earnings management than other family firms.

Hypothesis 1a substantiates Proposition One which posits that family firms in general have *family gains* above non-family firms ceteris paribus. Hypothesis 1b relates to Proposition Three which posits that an owner-manager led family firm has zero information asymmetry, hence incur greater *family gains* vis-à-vis other types of firms.

Bowen, Rajgopal and Venkatachalam (2004) suggest that agency cost-savings from managerial ownership may result from lesser propensity for owner-managers to manage accounting earnings. Graham, Harvey and Rajgopal (2005) indicate that managers are willing to give up real economic benefit and pursue earnings management in order to satisfy the implicit expectations of owners. Consequently, owner-manager firms are expected to exhibit lower earnings management than family firms, and family firms are expected to exhibit lower earnings management than non-family firms.

Hypothesis 1a can be modeled as follows:

$Earnings\ Management = \beta_0 + \beta_1 Family + \beta_2 Age + \beta_3 Size + \beta_4 Asset\_\ Tangibility + \beta_5 Industry\_Consumer + \beta_6 Industry\_Staples + \beta_7 Industry\_Energy + \beta_8 Industry\_Financials + \beta_9 Industry\_Healthcare + \beta_{10} Industry\_Industrials + \beta_{11} Industry\_Information\ Technology + \beta_{12} Industry\_Materials + \beta_{13} Industry\_Telecom + \beta_{14} Industry\_Utilities + \varepsilon$

And Hypothesis 1b can be modeled as follows:

$Earnings\ Management = \beta_0 + \beta_1 Family*Governance + \beta_2 Age + \beta_3 Size + \beta_4 Asset\_ Tangibility + \beta_5 Industry\_Consumer + \beta_6 Industry\_Staples + \beta_7 Industry\_Energy + \beta_8 Industry\_Financials + \beta_9 Industry\_Healthcare + \beta_{10} Industry\_Industrials + \beta_{11} Industry\_Information\ Technology + \beta_{12} Industry\_Materials + \beta_{13} Industry\_Telecom + \beta_{14} Industry\_Utilities + \varepsilon$

Where:

Earnings Management is the firm's absolute value of modified Jones' abnormal accruals as described in section 3.4.1;

Family is a binary dummy variable wherein 1 represents a family firm and 0 represents a non-family firm;

Governance is a binary dummy variable wherein 1 represents an owner-manager form of governance and 0 if otherwise. A firm follows an owner-manager form of governance when the firm's CEO and directorship are represented by a family member;

Family*Governance is an interaction variable[7] that reveals whether or not the owner-manager form of governance is significantly different from other forms of family firm governance;

Age is a measure of the firm's age and is measured as one plus the log of years from incorporation;

Size represents firm size and is measure as the log of firm's total assets for 2006;

Asset Tangibility represents the ratio of fixed assets within the firm is measured as the ratio of property, plant, and equipment over total assets at the end of the financial year;

Industry is a binary dummy variable wherein 1 represents each firm's particular industry (consumer discretionary, consumer staples, energy, financials, healthcare, industrials, information technology, materials, telecommunication and industry) according to the Australian Stock Exchange Global Industry Classification Standard (GICS) classification, and 0 if otherwise.

The expectations of Hypothesis 1a can be written mathematically as:

$$H1a_0: \beta_1 \geq 0$$

$$H1a_a: \beta_1 < 0$$

This indicates that Hypothesis 1a is substantiated if the estimator of earnings management is significant and negative for family firms.

The expectations of Hypothesis 1b can be written mathematically as:

$$H1b_0: \beta_1 \geq 0 \text{ or } \beta_1 \geq \beta_{1(H1a)}$$

$$H1b_a: \beta_1 < 0 \text{ and } \beta_1 < \beta_{1(H1a)}$$

---

[7] Note that this variable represents the interaction between two variables, *Family* and *Governance,* that employ binary values. In this situation, there is no need to include both direct and interaction variables for *Family* and *Governance* into the model since doing so will introduce multi-collinearity problems. Within this context, the inclusion of (only) the interaction variable into the model is more appropriate.

Results from Hypothesis 1b is contingent upon Hypothesis 1a. The above expectations indicate that Hypothesis 1b is substantiated if (1) the estimator of earnings management is significant and negative for family firms under managerial ownership and, (2) the estimator of earnings management of owner-managed family firms in this hypothesis is less than the estimator of earnings management of family firms in Hypothesis 1a.

3.2.2 Family Costs Construct

The presence of Family Costs in family firms is identified via Hypothesis 2a. Moreover, the presence of *family costs* in owner-manager family firms is identified via Hypothesis 2b.

Family costs are operationalized in this research as *capital structure variation*. On one hand, Mishra and McConaughy (1999) and Schulze, Lubatkin and Dino (2003) suggest that entrenchment and altruism make some family firms more risk averse, and would hence prefer lower leverage requirements. On the other hand, Harris and Raviv (1988) and Stultz (1988) provide the conceptual foundation to suggest that family firms may prefer higher levels of debt than that of issuing new equity, in order to maintain control over the family firm. In both situations, the capital structure decisions of family firms may deviate from optimal capital structure levels in the market. Proposition Two shows that when family firms transfer capital towards family objectives instead of maximizing the firm's future growth, hence making capital structure decisions under the presence of non-economic objectives, these firms may be willing to sacrifice potential future profitable opportunities. These opportunity costs distinguish family firms from non-family firms, ceteris paribus, and are identified as *family costs*. Further, consistent with our two-period family firm utility model in Section 2.7.2.2, the family firms'

reduction in future consumption opportunities arising from excess *family costs* may coincide with greater variations from optimal leverage requirements. Therefore, it can be inferred from these analyses that the family firms' adoption of capital structures that have greater variation to the market's optimal capital structure than that of non-family firms ceteris paribus signals the presence of *family costs*.

The subsequent hypotheses can be expressed as:

Hypothesis 2a: Family firms positively influence *family costs* from higher capital structure variation than that of non-family firms.

Hypothesis 2b: Family firms under managerial ownership positively influence *family costs* from higher capital structure variation than that of other family firms.

Hypothesis 2a seeks to validate Proposition Two which posits that family firms in general have *family costs* above non-family firms ceteris paribus. Hypothesis 2b relates to Proposition Three which posits that owner-manager led family firms have a greater divergence in non-economic objectives vis-à-vis other types of family firms, hence incurs greater *family costs*.

Hypothesis 2a can be modeled as follows:

Capital Structure Variation = β_0 + β_1Family + β_2Age + β_3Size + β_4Asset_ Tangibility + β_5Industry_Consumer + β_6Industry_Staples + β_7Industry_Energy + β_8Industry_Financials + β_9Industry_Healthcare + β_{10}Industry_Industrials + β_{11}Industry_Information Technology + β_{12}Industry_Materials + β_{13}Industry_Telecom + β_{14}Industry_Utilities + β_{15}Profitability + β_{16}Operating Risk + β_{17}Non-Debt Tax Shield + β_{18}Effective Tax Rate + ε

And Hypothesis 2b can be modeled as follows:

Capital Structure Variation= β_0 +β_1Family*Governance + β_2Age + β_3Size + β_4Asset_ Tangibility + β_5Industry_Consumer + β_6Industry_Staples + β_7Industry_Energy + β_8Industry_Financials + β_9Industry_Healthcare + β_{10}Industry_Industrials + β_{11}Industry_Information Technology + β_{12}Industry_Materials + β_{13}Industry_Telecom +

$\beta_{14}Industry\_Utilities + \beta_{15}Profitability + \beta_{16}Operating\ Risk + \beta_{17}Non\text{-}Debt\ Tax\ Shield + \beta_{18}Effective\ Tax\ Rate + \varepsilon$

Where:

Capital structure variation represents the variation between the firm's ratio of debt-to-market value of equity and the optimal capital structure ratio represented by the market's ratio of debt-to-market value of equity;

Family is a binary dummy variable wherein 1 represents a family firm and 0 represents a non-family firm;

Governance is a binary dummy variable wherein 1 represents an owner-manager form of governance and 0 if otherwise. A firm follows an owner-manager form of governance when the firm's CEO and directorship are represented by a family member;

Family*Governance is an interaction variable that reveals whether or not the owner-manager form of governance is significantly different from other forms of family firm governance;

Age is a measure of the firm's age and is measured as one plus the log of years from incorporation;

Size represents firm size and is measure as the log of firm's total assets for 2006;

Asset Tangibility represents the ratio of fixed assets within the firm is measured as the ratio of property, plant, and equipment over total assets at the end of the financial year. This measure controls for control risk among firms (Mishra & McCounaghy, 1999; Titman & Wessels, 1988);

Industry is a binary dummy variable wherein 1 represents each firm's particular industry (consumer discretionary, consumer staples, energy, financials, healthcare, industrials,

information technology, materials, telecommunication and industry) according to the Australian Stock Exchange GICS classification, and 0 if otherwise;

Profitability is measured as the firm's pre-tax profits divided by its operating revenue;

Operating risk is represented by the firm's beta and is measured via the capital asset pricing model;

Non-debt tax shield is measured as the firm's depreciation deflated by the firm's operating revenue;

Effective tax rate is measured as the firm's tax expenditure divided by its earnings before tax.

The expectations of Hypothesis 2a can be written mathematically as:

$$\text{H2a}_0: \beta_1 \leq 0$$

$$\text{H2a}_a: \beta_1 > 0$$

This indicates that Hypothesis 2a is substantiated if the estimator of capital structure variation is significant and positive for family firms.

The expectations of Hypothesis 2b can be written mathematically as:

$$\text{H2b}_0: \beta_1 \leq 0 \text{ or } \beta_1 \leq \beta_{1(\text{H2a})}$$

$$\text{H2b}_a: \beta_1 > 0 \text{ and } \beta_1 > \beta_{1(\text{H2a})}$$

This indicates that Hypothesis 2b is substantiated if (1) the estimator of capital structure variation is significant and positive for family firms under managerial ownership, and (2) contingent upon Hypothesis 2a, the estimator of capital structure variation for owner-managed family firms are greater than the estimator of capital structure of family firms in Hypothesis 2a.

3.2.3 Firm Performance Construct

Proposition Four infers that family firms have *family gains* and/or *family costs* that distinguish them from non-family firms. The trade-off between *family gains* and *family costs*, when non-zero, should result in family firms performing differently than non-family firms. This is captured in Hypothesis 3a. Hypothesis 3a is conditional upon the results of Hypothesis 1a and Hypothesis 2a.

Among family firms, Proposition Five suggests that the interaction between *family gains* and *family costs* is greatest in owner-manager led family firms. Since their performance is driven by this interaction, it is expected that owner-manager led family firms should outperform non-family firms with a greater magnitude than other forms of family firms, consistent with the outcome of Hypothesis 1b and Hypothesis 2b.

Firm performance is operationalized as: (1) the firm's approximate *Tobin's Q* (Q) and alternatively, (2) the firm's Return-on-Assets (ROA). Tobin's Q is the ratio between the firm's market value to the replacement cost of its physical assets. Morck, Schleifer and Vishny (1988) have suggested that Tobin's Q is an appropriate measure of managerial performance and utilized this signal to illustrate the relationship between managerial equity ownership and firm value. This study extends their work to highlight the effects of family managerial ownership. Return-on-assets is a widely used performance measure that highlights the firm's efficiency on its accounting-based resources.

Subsequently, these hypotheses can be expressed as:

Hypothesis 3a: Family firms have higher performance measures than non-family firms, consistent with the outcome of Hypotheses 1a and 2a.

Hypothesis 3b: Family firms under managerial ownership have higher performance measures than other forms of family firms, consistent with the results of Hypotheses 1b and 2b.

Hypothesis 3a can be modeled as follows:

Firm Performance $= \beta_0 + \beta_1 Family + \beta_2 Age + \beta_3 Size + \beta_4 Asset\_\ Tangibility + \beta_5 Industry\_Consumer + \beta_6 Industry\_Staples + \beta_7 Industry\_Energy + \beta_8 Industry\_Financials + \beta_9 Industry\_Healthcare + \beta_{10} Industry\_Industrials + \beta_{11} Industry\_Information\ Technology + \beta_{12} Industry\_Materials + \beta_{13} Industry\_Telecom + \beta_{14} Industry\_Utilities + \varepsilon$

And Hypothesis 3b can be modeled as follows:

Firm Performance $= \beta_0 + \beta_1 Family*Governance + \beta_2 Age + \beta_3 Size + \beta_4 Asset\_\ Tangibility + \beta_5 Industry\_Consumer + \beta_6 Industry\_Staples + \beta_7 Industry\_Energy + \beta_8 Industry\_Financials + \beta_9 Industry\_Healthcare + \beta_{10} Industry\_Industrials + \beta_{11} Industry\_Information\ Technology + \beta_{12} Industry\_Materials + \beta_{13} Industry\_Telecom + \beta_{14} Industry\_Utilities + \varepsilon$

Where:

Firm Performance is operationalized as either one of the following:

- the firm's market-to-book-value ratio or Approximate Tobin's *q*, where market-value is common equity plus book-value of preferred stock and debt (Villalonga & Amit, 2006; Randoy & Goel, 2003). This ratio approximates the firm's ratio of market value to the replacement cost of its assets or Tobin's *q,* or;

- the firm's return-on-asset accounting ratio;

Family is a binary dummy variable wherein 1 represents a family firm and 0 represents a non-family firm;

Governance is a binary dummy variable wherein 1 represents an owner-manager form of governance and 0 if otherwise. A firm follows an owner-manager form of governance when the firm's CEO and directorship are represented by a family member;

Family*Governance is an interaction variable that reveals whether or not the owner-manager form of governance is significantly different from other forms of family firm governance;

Age is a measure of the firm's age and is measured as the log of one plus the number of years from incorporation;

Size represents firm size and is measure as the log of firm's total assets for 2006;

Asset Tangibility controls for the effects of intangibles in the firm's Tobin's Q, and is measured as the ratio of property, plant, and equipment over total assets at the end of the financial year;

Industry is a binary dummy variable wherein 1 represents each firm's particular industry (consumer discretionary, consumer staples, energy, financials, healthcare, industrials, information technology, materials, telecommunication and industry) according to the Australian Stock Exchange GICS classification, and 0 if otherwise.

The expectations of Hypothesis 3a can be written mathematically as:

$$If\ H1a = H1a_a\ \&\ H2a = H2a_0$$
$$H3a_0: \beta_1 \leq 0$$
$$H3a_a: \beta_1 > 0$$

$$If\ H1a = H1a_a\ \&\ H2a = H2a_a$$
$$H3a_0: \beta_1 \leq 0$$
$$H3a_a: \beta_1 > 0$$

As discussed in Section 2.7.3 and Section 2.7.4, under a resource-based perspective, competitive advantages within family firms demonstrate mean-reverting properties in the long-run. Consequently, Hypothesis 3a assumes that the long-run trade-off between *family gains* and *family costs* within family firms yield cost-savings (ie. *family gains* > *family costs*). Hence, Hypothesis 3a is conditional on the results of Hypothesis 1a and

Hypothesis 2a. The expectations illustrated above indicate that if Hypothesis 1a is significant and Hypothesis 2a is not significant (ie. *family gains > family costs* as *family costs* = 0), it is expected that family firms will outperform non-family firms. Similarly, if both Hypothesis 1a and 2a are significant, then it should also be expected that the estimator of firm performance for family firms to be positive in order to substantiate Hypothesis 3a. However, if Hypothesis 1a is not significant and Hypothesis 2a is significant (ie. *family gains < family costs* as *family gains* = 0), then Hypothesis 3a cannot be substantiated.

The expectations of Hypothesis 3b can be written mathematically as:

$$\textit{If } H1b = H1b_a \ \& \ H2b = H2b_0$$
$$\text{H3b}_0: \beta_1 \leq 0 \text{ or } \beta_1 \leq \beta_{1(H3a)}$$
$$\text{H3b}_a: \beta_1 > 0 \text{ and } \beta_1 > \beta_{1(H3a)}$$

$$\textit{If } H1b = H1b_a \ \& \ H2b = H2b_a$$
$$\text{H3b}_0: \beta_1 \leq 0 \text{ or } \beta_1 \leq \beta_{1(H3a)}$$
$$\text{H3b}_a: \beta_1 > 0 \text{and } \beta_1 > \beta_{1(H3a)}$$

Hypothesis 3b is conditional on the results of Hypothesis 1b and Hypothesis 2b. The expectations illustrated above indicate that if Hypothesis 1b is significant and Hypothesis 2b is not significant (ie. *family gains > family costs* as *family costs* = 0), it is expected that owner-managed family firms will outperform other family firms. Likewise, based on earlier discussions on the mean-reverting properties of agency trade-offs in family firms, it is posited that if both Hypothesis 1b and 2b are significant, then it could be similarly expected that owner-managed family firms will outperform other family firms. Moreover, under both scenarios, it is posited that owner-manager led family firms should outperform other forms of family firms, consistent with Proposition 5. Therefore, it is expected that the estimator of firm performance for owner-manager led family firms will

be greater than the estimator of firm performance for family firms in Hypothesis 3a. Finally, if Hypothesis 1b is not significant and Hypothesis 2b is significant (ie. *family gains* < *family costs* as *family gains* = 0), then it is not possible to accept Hypothesis 3b.

The following figure illustrates how the hypotheses interact in relation to firm performance and managerial ownership.
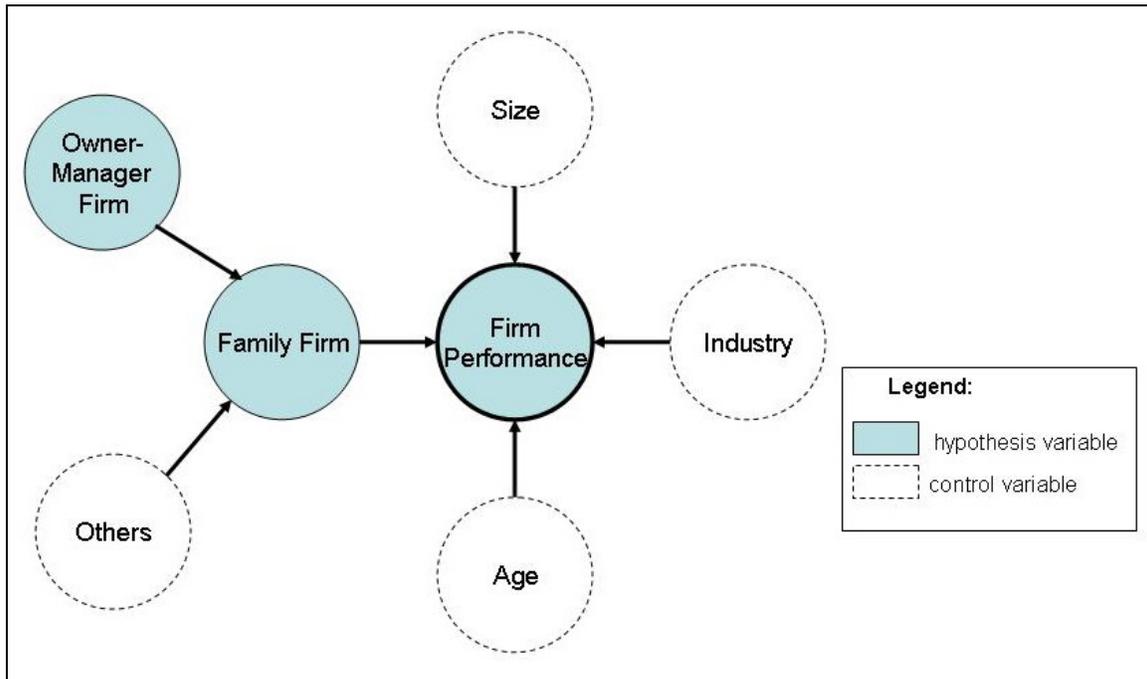
Figure 3.2: Is there a difference in firm performance between owner-managed family firms with other family firms?

3.3 Sample Selection and Data Collection Procedures

3.3.1 Study Period

The research design calls for cross-sectional statistical analysis and focuses on the financial year ending 2006 because this is the most contemporaneous set available wherein data on the variables of interest are complete.

3.3.2 Sample Selection

The study employs a complete sample of active and listed firms in the Australian Stock Exchange (ASX) for the financial year ending 2006. This is done to ensure internal validity, cross-sectional generalizability, and sufficient statistical sample size of the study.

3.3.3 Data Collection

Data was collected from Aspect/Huntley databases and Bureau van Dijk's Osiris database. The company's age of incorporation and other governance characteristics is collated from Aspect/Huntley Data Analysis databases. Firm industry classification, financial performance and financial structure can be collected from Aspect/Huntley Financial Analysis databases. Supplemental variables are obtained from the Osiris database.

3.4 Operationalization of the Constructs

3.4.1 Earnings Management

Earnings management represents an intentional intervention in the financial reporting process which could obtain private benefits to managers. Lower earnings management represents cost-savings that accrue from a convergence in information asymmetry among owners and managers. Peasnell, Pope and Young (2005) posit that personalism leads to a closer alignment of information, and that managerial ownership is associated with lower levels of earnings management. Further, studies have shown that management controlled firms are more likely to manage earnings than owner controlled firms (Dhaliwal, Salomon & Smith, 1982; Warfield, Wild & Wild, 1995; Teshima & Shuto, 2005).

Ronen and Yaari (2007) suggest that earnings management may be beneficial to owners ex-ante when hiring managers. They suggest that the cost of a truth-inducing contract that eliminates all earnings management would be greater than the cost of a contract that implicitly allows for earnings management (termed as a reporting management contract) plus the agency costs of earnings management. Thus, owners would prefer the latter over the former. Earnings management therefore, represents an incremental difference between a reporting management contract and the minimum value of a truth-inducing contract (Ronen & Yaari, 2007; Ari, Glover & Sunder, 1998). Within family firms, lower information asymmetry levels between ownership and management result in a lower nominal value for the truth inducing contracts, and hence, should result in lower earnings management. Consequently, cost-savings from the difference between the truth-inducing contracts of family firm and non-family firms is by definition, *family gains*.

Within the context of our empirical sample (ASX listed firms), a key area of managerial discretion is financial discretion (Graham, Harvey, Rajgopal, 2005). Thus, for the purposes of this study, earnings management is operationalized as abnormal accruals. Although earnings management is a difficult construct to measure, accounting studies determine its presence by estimating the unmanaged portion of earnings (Bugshan, 2005). In accounting theory, accruals are used as empirical indicators of earnings management since accruals provide management the opportunity and discretion to modify earnings figures (Jones, 1991; Dechow, Sloan & Sweeney, 1995; Bugshan, 2005). Further, McNichols (2000) suggests accruals management are favored over cash manipulation since cash earnings are difficult to alter and manage. Thus, discretionary (abnormal) and

non-discretionary (normal) accruals are used as measures of managed and natural earnings, respectively (Bugshan, 2005). Subramanyam (1996) provides evidence of this distinction; the author suggests share returns have greater sensitivity to non-discretionary earnings than discretionary earnings.

In relation to our research objective, an aggregate accruals model is the most suitable model to adapt because the model because it:

- Is flexible in adapting control variables;

- Improves the generalizability of the findings;

- Enables linear association with the *Family* variable;

- Captures net effects of all accounting estimations;

- Has been the model primarily used by earnings management studies focusing on opportunistic earnings management;

- Is consistent with our earlier propositions on managerial discretion and information asymmetry (McNichols, 2000; Bugshan, 2005).

Among aggregate accrual models, Dechow, Sweeney and Sloan (1995) find that the Modified Jones (1991) Model has the most potential to provide reliable estimates of discretionary accruals (Subramanyam, 1996; Bugshan, 2005).

The Jones (1991) model is based on the assumption that all firms within the industry have similar operating cycles. This model estimates accruals as a function of the changes in revenue and the level of fixed-assets, scaled by the firm's total assets. Thus, this model attempts to control for the effects of changing economic circumstances by controlling for changes in non-discretionary accruals (Bugshan, 2005). The Modified Jones Model corrects for a weakness in the earlier model by including changes in

receivables to capture sales-based manipulations (Dechow, Sweeney & Sloan, 1995). The Modified Jones Model assumes that, unlike the earlier model, only collected revenues are discretionary.

Kothari (2001) suggests that opportunistic earnings management is a transitory event. This implies that aggregate accrual analysis is suitable for cross-sectional testing. Further, Subramanyam (1996) find that cross-sectional Modified Jones models performed better than their time-series counterparts. Consequently, consistent with our research focus, the cross-sectional Modified Jones model for abnormal accruals will be used as operationalization of earnings management.

The Modified Jones Model measures discretionary (abnormal) accruals in a two-step procedure:

First, the model isolates non-discretionary accruals by regressing the total accruals of firms within an industry against the level of property, plant and equipment, and changes in revenue and receivables. These variables are scaled by lagged total assets to reduce heteroskedasticity (Bugshan, 2005; Jones, 1991). The regression estimation produces non-discretionary coefficients for each industry group.

$$TA_{j,g}/A_{j,g} \; = \; \gamma_0 \; (1/A_{j,g}) \; + \; \gamma_1 \; ((\Delta REV_{j,g} \; - \; \Delta REC_{j,g})/A_{j,g}) \; + \; \gamma_2 \; (PPE_{j,g}/A_{j,g})$$

Where:

TA	=	Total accruals (see below);
A	=	Beginning of year total assets;
ΔREV	=	Change in net revenue;
PPE	=	Property, plant, and equipment;
j	=	denote firm from g industry group;
g	=	denote industry group;
ΔREC	=	change in accounts receivables.

Next abnormal accruals for each firm j are estimated. This is achieved by fitting the estimated industry coefficients from step 1 on each firm j. The regression residual from this process is identified as the abnormal accrual of firm j. Consistent with other studies of this nature, our research is interested in the magnitude, rather than the level, of abnormal accruals. This is because earnings management is viewed as a deviation of reflected accounting earnings from the natural result of the firm's transactions and events. Thus, earnings management is not conditioned by the direction of the change in earnings, but by the change itself (Bugshan, 2005). Therefore, the absolute-value of the abnormal accruals is used to compute for the effects of earnings management.

$$AA_j = TA_j/A_j - [\hat{\gamma}_0 \ (1/A_j) + \hat{\gamma}_1 \ ((\Delta REV_j - \Delta REC_j) /A_j) + \hat{\gamma}_2 \ (PPE_j/A_j)]$$

Where:

$\hat{\gamma}_0$, $\hat{\gamma}_1$, and $\hat{\gamma}_2$ are the fitted coefficients from the previous equation;
AA_j = Abnormal Accruals for firm j;
AAA_j = Absolute-value of Abnormal Accruals for firm j.

The Modified Jones Model requires the firm's total accruals in order to estimate non-discretionary accruals. Recent accounting studies estimate total accruals via a cashflow approach wherein total accruals are measured as the difference between earnings before extraordinary and abnormal items and operating cash-flow (Subramanyam, 1996; Bugshan, 2005).

$$TA = EBXA - OC$$

Where:

TA = Total Accruals;
EBXA = Earnings before extraordinary and abnormal items;
OC = Operating cash flow.

3.4.2 Capital Structure Variation

Jensen and Meckling (1976) suggests that managers do not always adopt capital structures with a value maximizing level of debt. The optimal choice of debt for the family firm's economic objectives may differ from the choice of debt when non-economic objectives are included. The presence of non-economic objectives impacts the firm's choices about capital structure such that the average level of leverage for firms with these problems may deviate from the optimal level (Berger, Ofek & Yermack, 1997). This may affect a family firm's choice of capital structure in two paradoxical ways. On one hand, Mishra and McConaughy (1999) and Schulze, Lubatkin and Dino (2003) suggests that the presence of non-economic objectives make family firms more risk averse. On the other hand, Harris and Raviv (1988) and Stultz (1988) imply that debt may be used as an instrument for current owners to maintain control of the firm. Since the issuance of new equity dilutes the percentage of equity held by the controlling family, they would therefore prefer raising capital using debt over equity, when given the choice between the two.

The presence of non-economic goals peculiar to family firms poses the threat of warping the family management's perception of risk. Family firms shoulder greater personal risks from personal rents related to non-economic objectives invested within the firm (Mishra & McConaughy, 1999; Gomez-Mejia, Nunez-Nickel & Guttierez, 2001). Further, family firms would prefer lower business risks than that of large diversified firms in order to optimize the flow of resources towards its economic and non-economic objectives (Mishra & McConaughy, 1999; Gomez-Mejia, Nunez-Nickel & Guttierez,

2001). Hence, the family firm's lower tolerance for business risk may make them biased towards adopting lower levels of debt in their capital structures than non-family firms.

However, Bebchuk (1999) and Harijono, Ariff and Tanewski (2004) suggest that the extent of ownership's concentration may be dependent on the private benefits the dominant family coalition obtain from their control over the firm. Therefore, a family coalition's emphasis on non-economic objectives may result in an aversion to equity financing. Between debt leverage and equity capital, family firms may prefer the former over the latter, especially if the private benefits they acquire from controlling the firm is high (Harris & Raviv, 1988; Stultz, 1988).

These studies have shown that on one hand, family firms have a natural aversion to risk, and hence, high debt levels. On the other hand, they have natural incentives to increase voting control by avoiding equity financing. Therefore, these two paradoxical views are consistent with Myers and Majluf's (1984) pecking order theory. Concurrently, Blanco-Mazagatos, Quevedo-Puente and Castrillo (2007) provide evidence to show that family firms adhere to this financial pecking order theory.

One thing that remains consistent between both competing schools of thought is the implication that family firms' idiosyncratic capital structure decisions deviate from optimal levels. Thus, agency costs arising from a sub-optimal leverage level may result from the pursuit of divergent firm goals. For instance, altruism may result in higher debt levels and impede growth since entrenched owners may have a vested interest in preserving the value of existing capital (Morck, Stangeland & Yeung, 2000; Claessens, Djankov, Fan & Lang, 2002; Harijono, Ariff & Tanewski, 2004). Concurrently, Friend and Lang (1988) and Berger, Ofek and Yermack (1997) find that the level of debt

decreases as personalism in the firm increases, reflecting the greater non-diversifiable risk of debt to agents than to principals.

As illustrated from Fisher's two-period consumption model, finance theory suggests that one of the key functions of leverage is to allow managers to maximize their firm's growth opportunities exclusive from their owners' own risk tolerance (see Appendix 1). Thus, a firm's capital structure decision may be an indicator of its activities related to its future growth. The above extant literature are consistent with the two-period Family Firm Welfare Model (Section 2.7.2.2) which implies that contrary to Fisher's two-period consumption model, the presence of non-economic objectives and *family costs* makes it difficult for family firms to optimize consumption and investment decisions. The model shows that *family costs* are drivers of sub-optimal capital structure decisions. That is, in order for family firms to maintain their consumption under these circumstances, the are required to make sub-optimal investment choices in potential growth opportunities.

Therefore, capital structure variation in family firms may signal the presence of *family costs*. In this study, capital structure variation is operationalized as the variation between the firm's debt-to-asset ratio and the optimal capital structure ratio represented by the market's debt-to-asset ratio.

$$CS_i = \left(\frac{BV_i(debt)}{BV_i(asset)} - \frac{BV_m(debt)}{BV_m(asset)} \right)^2$$

Where:

CS_i	=	Capital Structure Variation in firm i;
$BV_i(debt)$	=	Book value of debt of firm i;
$BV_m(debt)$	=	Book value of debt of market m;
$BV_i(asset)$	=	Book value of asset of firm i;
$BV_m(asset)$	=	Book value of asset of market m;

Where market *m* is calculated from the (i) industry average or (ii) market average.

The debt-to-asset ratio is a commonly used ratio in analyzing firms' capital structure preferences (Berger, Ofek & Yermack, 1997; Mishra & McConaughy, 1999; Schulze Lubatkin & Dino). The above hypotheses are based on the assumption that an optimal capital structure exists within Australian markets. It is posited that the degree in which firms' capital structure is lower or higher from the optimal level is greater in family firms than in non-family firms. Thus, this concept is operationalized by utilizing the squared value of the difference (ie. variation) between individual firms' capital structure and the optimal level. Extant literature suggest that while it is difficult to measure this optimal capital structure level, industry average and market average may provide reasonable proxies of this concept.

3.4.3 Firm Performance

Firm performance is operationalized as the firm's approximate Tobin's *q*, where Tobin's *q* is the ratio between the firm's market value to the replacement cost of its physical assets. Chung and Pruitt (1994) and Perfect and Wiles (1994) have shown that Tobin's *q* can be approximated using a simple formula:

$$Q = \left(\frac{MVE + STD + LTD}{A} \right)$$

Where:

Q = Approximate Tobin's Q
MVE = Market value of the firm's total equity and hybrid securities
STD = Short-term liabilities
LTD = Long-term liabilities
A = Book-value of Total Assets

Approximate Tobin's *q* is commonly utilized in family business studies as a measure of firm performance. Table 3.2 provides a summary of key family business literatures that have employed the abovementioned measure as a dependent variable of firm performance.

Table 3.2 Summary of Literature

Year	Authors	Title	Journal	Research Topic
2001	Mishra, Randoy & Jenssen	The effect of founding family influence on firm value and corporate governance	*Journal of Int'l Financial Management & Accounting*	The relationship of founding family control and firm value, and the moderating effects of unique corporate governance conditions in Norway.
2003	Anderson & Reeb	Founding-family ownership and firm performance: evidence from the S&P 500.	*The Journal of Finance*	Effects of founding family ownership, active family control and large blockholdership to firm performance in the USA.
2003	Randoy & Goel	Ownership structure, founder leadership, and performance in Norwegian SMEs: implications for financing entrepreneurial opportunities.	*Journal of Business Venturing*	Effects and financing implications of ownership structure and founder leadership in family firm performance in Norway.
2006	Villalonga & Amit	How do family ownership, control and management affect firm value	*Journal of Financial Economics*	The relative performance of family firms against non-family firm ownership in the USA.
2004	McCo-nuahgy, Matthews, Fialko	Founding family controlled firms: performance, risk and value.	*Journal of Small Business Management*	The effects of Founding family control on performance, capital structure and value in the USA.

As an additional test, this study will utilize Return on assets (ROA) as a proxy for firm performance. Amongst extant literature, Anderson and Reeb (2003), Randoy and Goel (2003) and Lee (2004) utilize the ROA ratio as a measure of firm efficiency parallel to that of Tobin's Q. Return on Assets is measured as:

$$ROA = \left(\frac{NI}{A} \right)$$

Where:

ROA = Return on Assets;
NI = Net Income;
A = Total Assets on beginning period.

3.4.4 Family and Managerial Ownership Variables

In Section 2, theory development was made under an essence-based definition of the family firm. However, due to data limitations, our operationalization of the family firm utilizes a components-of-involvement approach. Specifically, the components of management, ownership and governance are used to broadly define a firm as a family firm. For this research, Villalonga and Amit's (2006) selection criterion, in which a firm is said to be a family firm when the family is the largest shareholder and has at least one family officer or one family director currently in the firm, was selected.

An inherent problem in this approach is that the research findings could possibly suffer external validity problems. However, while there are differences between the components of involvement and essence-based approach in defining a family business, Chua, Chrisman and Sharma (1999) suggest that components such as ownership and management could be a useful means for sample selection, given proper theoretical guidance. They posit that the true population of family businesses is likely to a subset of a population that is identified via the components of involvement approach.

Chua, Chrisman and Sharma (1999) recommends seeking theoretical guidance in delineating family from non-family firms using the components-of-involvement approach in evaluating family firm behavior. The inclusion of managerial ownership in our conceptual analysis above provides this theoretical link between concept and empirics.

Operationalizing the *governance* variable is straightforward: a firm follows an owner-manager form of governance when the firm's CEO and directorship are represented by a family member. The interaction between the *family* variable and *governance* variable are expected to yield owner-managed family firms.

3.4.5 Control Variables

The regression tests in all three hypotheses are controlled for the confounding effects of firm age, firm size, industry membership and asset tangibility. The inclusion of these control variables are discussed as follows:

3.4.5.1 Firm Age

Firm age is taken as the log of one plus the number of years from incorporation. The logarithmic form is imposed to reduce the effects of heteroskedasticity when the data is used in regression procedures (Mishra, Randoy & Jenssen, 2001; Anderson & Reeb, 2003; Randoy & Goel, 2003; Belen & Villalonga, 2006). Firm age controls for idiosyncratic life-cycle effects among firms (Schulze, Lubatkin & Dino, 2001; Anderson & Reeb, 2003; Gomez, Larranza-Kitana & Makri, 2003; Randoy & Goel, 2003; Mishra, Randoy & Jenssen, 2001; Chrisman, Chua & Litz, 2004). Smith, Mitchell and Summers (1985) propose that firms' management priorities change across the lifecycle of the business, and advocate the measurement of firm age as a proxy for firm-specific lifecycle. Moores and Mula (2000) provide evidence to support the association between the firm's lifecycle and management among Australian family firms. Moreover, Mayer (1995) suggests that the firms' corporate governance structures are affected by differences in the firms' life-cycle development.

3.4.5.2 Firm Size

Firm size is measured as the log of the firm's total assets for 2006. Like firm age, the logarithmic form is imposed to reduce the effects of heteroskedasticity when the data is used in regression procedures (Mishra, Randoy & Jenssen, 2001; Schulze, Lubatkin & Dino, 2001; Randoy & Goel, 2003; Ng, 2005; Belen & Villalonga, 2006). Similarly, firm size controls for the life-cycle effects particular to individual firms (Mishra & McConaughy, 1999; Schulze, Lubatkin & Dino, 2001; McConaughy, Matthews & Fialko, 2001; Anderson & Reeb, 2003; Gomez, Larranza-Kitana & Makri, 2003; Randoy & Goel, 2003; Mishra, Randoy & Jenssen, 2001; Chrisman, Chua & Litz, 2004). Smith, Mitchell and Summers (1985) advocate the measurement of firm size as a proxy for possible scale economy effects that may affect management's strategic priorities. Further, Dalton, Daily, Johnson and Ellstand (1999) suggests that firm size may influence firm governance and strategic decision-making.

3.4.5.3 Industry Affiliation

Baysinger and Butler (1985) utilized industry affiliation as a moderating variable to highlight the relationship between firm performance and corporate governance. Accordingly, family business literatures have shown that the association between family ownership and the firm's capital structure and/or performance is moderated by the industry where the firm is affiliated with (Mishra & McConaughy, 1999; Mishra, Randoy & Jenssen, 2001; McConaughy, Matthews & Fialko, 2001; Gomez, Larranza-Kitana & Makri, 2003; Randoy & Goel, 2003; Chrisman, Chua & Litz, 2004). This is achieved by assigning the firm a dummy variable (1) for the appropriate industry sector it is affiliated with according to the Australian Stock Exchange GICS classification. The GICS

classification stratifies firms according to ten industry sectors: *consumer discretionary, consumer staples, energy, financials, healthcare, industrials, information technology, materials, telecommunication* and *industry*.

The association between earnings management and family ownership implicitly controls for industry affiliation. The modified Jones' Model measures the firm's non-discretionary accruals separate for each industry group, ensuring the moderating effects of industry affiliation is controlled for (Dechow, Sweeney & Sloan, 1995).

3.4.5.4 Asset Tangibility

Firm performance is sensitive to the level of fixed assets a firm possesses (Mishra, Randoy & Jenssen, 2001; Randoy & Goel, 2003). Further, past outcomes have indicated that corporate governance outcomes are affected by asset tangibility (Randoy & Goel, 2003). Subsequently, asset tangibility, measured as the ratio of the firm's fixed assets over its total assets, is used to control for the effects of intangibles in the firm's Tobin's *q*.

3.4.5.5 Capital Structure controls

In addition to the above-mentioned controls, our empirical tests on capital structure (Hypothesis 2) require the inclusion of the following control variables:

Profitability controls for the moderating effect of the firm's profitability on the firm's ability to source leverage (Mishra & McConaughy, 1999; Friend & Lang, 1988; Berger, Ofek & Yermack, 1997). It is measured as the firm's pre-tax profits divided by its operating revenue;

Operating risk controls for the moderating effect of the firm's riskiness vis-à-vis other firms in the market. The firm's inherent riskiness affects its cost of borrowing and subsequently, its capital structure choice (Mishra & McConaughy, 1999; Friend & Lang,

1988; Berger, Ofek & Yermack, 1997). Operating risk is obtained from Bureau van Dijk's Osiris database, and is calculated as the covariance of the firm's returns and the returns of the ASX index, scaled by the variance of the returns of the ASX index.

$$Beta = \left(\frac{Covariance \ (Firm \ returns, Market \ Returns)}{Variance \ (Market \ Returns)} \right)$$

Non-debt tax shields may also affect the attractiveness of debt financing (Mishra & McConaughy, 1999; Berger, Ofek & Yermack, 1997). It is obtained by calculating the ratio of the firm's depreciation deflated by the firm's operating revenue;

Effective tax rate controls for the firm's tax liabilities as a potential moderator of its capital structure choice. It is measured as the firm's tax expenditure divided by its earnings before tax.

3.5 Techniques in Statistical Analysis

Data analysis proceeds in four separate steps. The statistical techniques employed in each of these tests are outlined as follows:

3.5.1 Step one: Data Collection and Descriptive Statistics

The first step in our analysis is to manually collect the data from the Australian Centre for Family Business' ASX database, Aspect/Huntley's Financial Analyis database, Aspect/Huntley's Data Analysis database and Bureau van Dijk's Osiris database. These data are compiled and drawn together in a unified spreadsheet. To account for skewness and improve the data's robustness, *firm age* and *firm size* will be transformed into their logarithmic form.

3.5.2 Step two: Data Organization and Transformation

Family firms are defined as a series of combinations of firm characteristics. Family firms are identified in this study by sorting through these combinations of firm characteristics cataloged by the Australian Centre for Family Business' ASX database. This allows the study to test the hypotheses on various definitions of the family firm.

The next step of the analysis is to compute the absolute value of the firms' abnormal accruals. This study utilizes the modified Jones model for abnormal accruals (Dechow, Sloan & Sweeney, 1995). Ordinary Least-Square regression is employed among the 10 GICS industry sector to identify their accrual expectation models. The calculated residuals among individual firms from their industry's accruals expectation model are classified as abnormal accruals.

Subsequently, the data's descriptive statistics, differentiating family from non-family firms, is tabulated.

3.5.3 Step three: Multiple Linear Regression Tests

Multiple linear regression is employed across the six hypotheses with a focus to the significance, as opposed to the power, of the models. As discussed earlier, hypotheses 1b, 2b and 3b are contingent upon the results of hypotheses 1a, 2a and 3a respectively. Further, hypotheses 3a and 3b are contingent upon hypotheses 1a and 2a and 1b and 2b, respectively. Since the relative informativeness of these six hypotheses are dependent upon each other, discussion on the results of these tests must take these interdependencies under consideration.

3.5.3 Step four: Checks for Robustness

Econometric issues such as residual normality, multicollinearity, autocorrelation and heteroskedasticity are tested, and appropriate remedies are to be employed if necessary. Multicollinearity is identified via analysis of the variance inflation factor. For cross-sectional studies, serial correlation issues are checked via Durbin-Watson statistics. Heteroskedasticity is determined via the White heteroskedastic test.

The problem of Non-normal distribution of residuals is generally corrected by removing outliers and/or modeling an appropriate test distribution for the data set via bootstrapping. Multicollinearity issues are addressed by deflating dependent and independent variables with the endogenous variable or utilizing factor analysis to merge collinear variables. Autocorrelation of errors is corrected via the introduction of autoregressive processes or rearranging the ordering of observations. Finally, heteroskedasticity problems are corrected by the White model (Pindyck & Rubensfeld, 1998).

3.6 Summary

Chapter Three discussed the research design, sample selection, data collection, variable definition and statistical procedures used in this study. Propositions from chapter two are presented empirically as hypotheses, and appropriate hypotheses-testing procedures are proposed to verify these propositions. The following tables provide a summary of the hypotheses and variable definitions.

Table 3.3 Summary of Hypotheses

Construct	*Hypothesis*	*Expected Outcome*
Family gains	***Hypothesis 1a:*** Family firms positively influence *family gains* from lower earnings management than that of non-family firms.	$H1a_0$: $\beta_1 \geq 0$ $H1a_a$: $\beta_1 < 0$
Family gains	***Hypothesis 1b:*** Family firms under managerial ownership have greater *family gains* from lower earnings management than other family firms.	$H1b_0$: $\beta_1 \geq 0$ or $\beta_1 \geq \beta_{1(H1a)}$ $H1b_a$: $\beta_1 < 0$ and $\beta_1 < \beta_{1(H1a)}$
Family Costs	***Hypothesis 2a:*** Family firms positively influence *family costs* from higher capital structure variation than that of non-family firms.	$H2a_0$: $\beta_1 \leq 0$ $H2a_a$: $\beta_1 > 0$
Family Costs	***Hypothesis 2b:*** Family firms under managerial ownership positively influence *family costs* from higher capital structure variation than that of other family firms.	$H2b_0$: $\beta_1 \leq 0$ or $\beta_1 \leq \beta_{1(H2a)}$ $H2b_a$: $\beta_1 > 0$ and $\beta_1 > \beta_{1(H2a)}$
Agency Trade-off	***Hypothesis 3a:*** Family firms have higher performance measures than non-family firms, consistent with the outcome of Hypotheses 1a and 2a.	*If H1a = H1a$_a$ & H2a = H2a$_0$* $H3a_0$: $\beta_1 \leq 0$ $H3a_a$: $\beta_1 > 0$ *If H1a = H1a$_a$ & H2a = H2a$_a$* $H3a_0$: $\beta_1 \leq 0$ $H3a_a$: $\beta_1 > 0$
Agency Trade-off	***Hypothesis 3b:*** Family firms under managerial ownership have higher performance measures than other forms of family firms, consistent with the results of Hypotheses 1b and 2b.	*If H1b = H1b$_a$ & H2b = H2b$_0$* $H3b_0$: $\beta_1 \leq 0$ or $\beta_1 \leq \beta_{1(H3a)}$ $H3b_a$: $\beta_1 > 0$ and $\beta_1 > \beta_{1(H3a)}$ *If H1b = H1b$_a$ & H2b = H2b$_a$* $H3b_0$: $\beta_1 \leq 0$ or $\beta_1 \leq \beta_{1(H3a)}$ $H3b_a$: $\beta_1 > 0$ and $\beta_1 > \beta_{1(H3a)}$

Table 3.4 Summary of Variable Definitions

Variable	Abbreviation	Definition
Earnings Management	AAA	The firm's absolute value of modified Jones' abnormal accruals as described in section 3.4.1.
Capital structure variation	Varida	The variation between the firm and industry average's debt-to-asset ratio as described in section 3.4.2.
Capital structure variation	Varmda	The variation between the firm and market average's debt-to-asset as described in section 3.4.2.
Firm Performance	Q	The firm's Approximate Tobin's *q* as described in section 3.4.3.
Firm Performance	ROA	The firm's Return on Assets as described in section 3.4.3.
Family	Fam	A binary dummy variable wherein 1 represents a family firm and 0 represents a non-family firm as described in section 3.4.4.
Governance	OM	A binary dummy variable wherein 1 represents an owner-manager form of governance and 0 if otherwise as described in section 3.4.4.
Age	Age	A measure of the firm's age and is measured as the log of one plus the number of years from incorporation as described in section 3.4.5.1
Size	Size	Firm size and is measure as the log of firm's total assets for 2006 as described in section 3.4.5.2
Asset Tangibility	Tan	The ratio of property, plant, and equipment over total assets at the end of the financial year, as described in section 3.4.5.4
Industry		A binary dummy variable wherein 1 represents each firm's particular industry according to the Australian Stock Exchange GICS classification, and 0 if otherwise, as described in section 3.4.5.3
Profitability	Profit	The firm's pre-tax profits divided by its operating revenue, as described in section 3.4.5.5
Operating risk	Beta	The firm's beta, computed as the covariance of the firm's returns and the returns of the ASX index, scaled by the variance of the returns of the ASX index, as described in section 3.4.5.5
Non-debt tax shield	NDTS	The ratio of the firm's depreciation deflated by the firm's operating revenue, as described in section 3.4.5.5
Effective tax rate	ETR	The ratio of the firm's tax expenditure divided by its earnings before tax, as described in section 3.4.5.5

Chapter 4. Empirical Results

4.1 Introduction

This chapter presents and evaluates the results of the research method as discussed in Chapter Three. As established in Chapter Three, six hypotheses are tested. Based on the results of these tests, conclusions are drawn in the context of the study's earlier propositions.

Hypothesis 1a tests whether family firms exhibit lower information asymmetries, as represented by abnormal accruals, than their non-family counterparts. Hypothesis 1b extends this test by focusing on whether managerial ownership reduces the level of information asymmetries amongst family firms. These tests measure the presence of *family gains* in family firms and owner-manager led family firms respectively.

Hypothesis 2a examines whether family firms have greater non-economic objectives, as represented by capital structure variation, than their non-family counterparts. Further, Hypothesis 2b tests whether managerial ownership increases the influence of non-economic objectives amongst family firms. Thus, these tests measure the presence of *family costs* in family firms and owner-manager led family firms respectively.

Employing performance measures such as Tobin's Q and Return-on-Asset ratio, Hypothesis 3a evaluates whether family firms outperform their non-family counterparts. Moreover, Hypothesis 3b tests whether managerial ownership increases relative firm performance amongst family firms. These tests are meant to illustrate that the trade-off of *family gains* and *family costs* in family firms results in competitive advantages in the long-run.

To further strengthen these results, additional alternative data collection procedures, and non-parametric testing methods which reinforce this study's findings, were adopted. These are documented and outlined in Appendix 3 and are referred to throughout as appropriate.

Chapter 4 proceeds as follows: Section 4.2 discusses the descriptive and correlation statistics. Section 4.3 presents the empirical results of Hypothesis 1a and Hypothesis 1b. Section 4.4 presents the empirical results of Hypothesis 2a and Hypothesis 2b. Section 4.5 presents the empirical results of Hypothesis 3a and Hypothesis 3b. Section 4.6 describes the robustness checks on the above hypotheses testing. Finally, Section 4.7 summarizes the findings and conclusions drawn from the empirical results.

4.2 Descriptive Statistics and Correlation Statistics

This section presents the results of the data collection process. Moreover, the descriptive statistics and correlation statistics of key dependent and independent variables used in succeeding analyses are discussed.

4.2.1 Data Collection Statistics

Data from these key variables are collected from 1,375 samples based on the study period and sample selection procedure outlined in Section 3.3. A summary of the data collection breakdown is presented in Table 4.1.

Table 4.1 Data Collection Statistics

Description	No. of Firms	Percentage
ASX-listed candidate firms (Section 3.3)	1,462	100.0%
Trusts, funds and other similar entities	62	4.2%
Outliers and firms with missing data	25	1.7%
Firms used in sample	*1,375*	94.0%

Initially, the sample selection procedure outlined in Section 3.3 yielded 1,462 firms as potential sources for sample data. ASX-listed firms under the form of trusts and funds are excluded from the sample due to the following reasons:

The foundation of this research relies on the application of agency theory on companies, as proposed by Berle and Means (1932). For empirical research involving listed firms, this conceptual framework extends primarily to corporations. Trusts and funds, being heavily regulated industries, are positioned to adopt conservative accounting practices and objectives (Bugshan, 2005) which may not accurately reflect the assumptions of agency theory. Peasnell, Pope and Young (2000) and Bugshan (2005) suggest that these firms incorporate special accounting practices that make the estimation of abnormal accruals difficult.

Twenty-five (25) firms with missing data or were identified as outliers were excluded. Outliers were identified using the Mahalabonis distance measure of 3 standard deviations (Tiwari, K., Mehta, K., Jain, N., Tiwari, R. & Kanda, G., 2007).These firms account for approximately 1.7% of the total potential sample, below the rule-of-thumb 10% threshold traditionally used in statistical studies.

4.2.1 Descriptive Statistics

Table 4.2 illustrates the mean and standard deviation statistics of key variables utilized in the empirical analysis. The means were calculated using arithmetic averages, and subsequently, standard deviation figures were based on these on results.

Table 4.2 General Descriptive Statistics

	Mean	Std. Deviation
Dependent Variables		
AAA	0.2246	0.5181
Varida	0.0650	0.8991
Varmda	0.0699	0.9079
Q	2.1236	1.7470
ROA	-0.1616	0.6199
Independent Variables		
Family Firm	0.1651	0.3714
Owner-Managed Family Firm	0.1215	0.3268
Age	2.6065	0.9524
Size	17.5459	2.3101
Tan	0.1626	0.2198
Beta	0.3032	0.6465
Profit	-164.9886	2217.7377
NDTS	12.6068	201.2085
ETR	0.0842	0.5548
Total Sample Size	1,375	

Legend : AAA – Earnings Management via Absolute-Value Abnormal Accruals; Varida – Industry Mean Debt-to-Asset Variation; Varrmda – Market Mean Debt-to-Asset Variation; Q – Approximate Tobin's *Q*; ROA – Return on Assets; Age – Logarithmic Firm Age; Size – Logarithmic Firm Assets; Tan – Asset Tangibility or PPE over Assets; Profit – Profitability or Pre-tax profit over Operating Revenue; Beta – Operating Risk or Beta to the Market index; NDTS – Non-debt Tax Shield or Depreciation over Operating Revenue; ETR – Effective Tax Rate or Tax-paid over Earnings before Tax.

Based on the above summary, family firms comprise roughly 16.5% of active ASX listed firms in 2006. This is consistent with Mroczkowski and Tanewski's (2004) findings which suggest that family firms comprise approximately 17% of the ASX listed firms. Further, the above summary shows that owner-manager led family firms comprise 12.15% of all ASX listed firms. This is summarized in Table 4.3.

Table 4.3 Family Firm Composition in the ASX

Family Firm Summary	Count	Percentage	Count	Percentage
Family Firms	227	16.51%		
Owner Manager Led Family Firms			167	12.14%
Non Owner Manager Led Family Firms			60	4.37%
Non-Family Firms	1148	83.49%	1148	83.49%
Total	1,375	100.00%	1,375	100.00%

Table 4.4 provides a summary of the industry sector composition of the ASX data evaluated. A majority of the firms evaluated, roughly 29% in 2006, are associated with the *materials* sector. On the other hand, the *utilities* sector provided the least samples, with approximately 0.95% of all samples in 2006.

Table 4.4 Industry Statistics

Industry	Count	Percentage	Industry	Count	Percentage
Consumer Staples	142	10.33%	*Industrial*	166	12.07%
Staples	46	3.35%	*Technology*	105	7.64%
Energy	131	9.53%	*Materials*	404	29.38%
Financials	202	14.69%	*Communications*	28	2.04%
Health	138	10.04%	*Utilities*	13	0.95%
Total				1,375	100.00%

4.2.2 Correlation Statistics

Table 4.5 presents the Pearson paired correlations of the dependent variables (AAA, Vairda, Varmda, Q and ROA) amongst each other, and among their independent control variables.

Table 4.5 Correlation Statistics (Dependent Variables)

	AAA	Varida	Varmda	Q	ROA
AAA	1***	0.05*	0.05*	0.1***	-0.16***
Varida	0.05*	1***	0.99***	0.21***	-0.23***
Varmda	0.05*	0.99***	1***	0.2***	-0.23***
Q	0.1***	0.21***	0.2***	1***	-0.25***
ROA	-0.16***	-0.23***	-0.23***	-0.25***	1***
Age	-0.02	0.02	0.02	-0.07**	0.1***
Size	-0.21***	-0.05*	-0.05*	-0.24***	0.4***
Tan	-0.09***	0.01	0.01	-0.07**	0.12***
Beta	0.03	-0.05*	-0.05*	-0.05	0.01
Profit	0.02	0.01	0.01	-0.04	0.03
NDTS	-0.02	-0.01	-0.01	0.04	-0.03
ETR	-0.04	-0.01	-0.01	0.01	0.07**

Legend : AAA – Earnings Management via Absolute-Value Abnormal Accruals; Varida – Industry Mean Debt-to-Asset Variation; Varrmda – Market Mean Debt-to-Asset Variation; Q – Approximate Tobin's *Q*; ROA – Return on Assets; Age – Logarithmic Firm Age; Size – Logarithmic Firm Assets; Tan – Asset Tangibility or PPE over Assets; Profit – Profitability or Pre-tax profit over Operating Revenue; Beta – Operating Risk or Beta to the Market index; NDTS – Non-debt Tax Shield or Depreciation over Operating Revenue; ETR – Effective Tax Rate or Tax-paid over Earnings before Tax; * - Significant with 90% level of confidence; ** - Significant with 95% level of confidence ; *** - Significant with 99% level of confidence.

As can be seen in the table, except between capital structure variation around industry means and market means (Varida and Varmda, respectively), the correlations among dependent variables are not very high, indicating that there is little redundancy in the testing method. Meanwhile, it is noted that Varida and Varmda are alternative measures of variation from an optimal capital structure level. As could be expected, they are highly correlated with each other (99%). The performance indicators of Approximate Tobin's Q (Q) and Return on Assets (ROA) are not positively correlated (-25%) possibly because they are meant to measure different classes of firm efficiency. While Return on Assets measures how efficiently a firm utilizes its current recorded assets, Tobin's Q measures the market's current perception of a firm's future performance, including the utilization of its intangible assets (Randoy & Goel, 2003).

Table 4.6 shows the Pearson paired correlation statistics of each independent control variables utilized in empirical testing against each other and against the dependent variables.

Table 4.6 Correlation Statistics (Independent Variables)

	Age	Size	Tan	Beta	Profit	NDTS	ETR
AAA	-0.02	-0.21***	-0.09***	0.03	0.02	-0.02	-0.04
Varida	0.02	-0.05*	0.01	-0.05*	0.01	-0.01	-0.01
Varmda	0.02	-0.05*	0.01	-0.05*	0.01	-0.01	-0.01
Q	-0.07**	-0.24***	-0.07**	-0.05	-0.04	0.04	0.01
ROA	0.1***	0.4***	0.12***	0.01	0.03	-0.03	0.07**
Age	1***	0.26***	0.09***	-0.06**	0.02	-0.02	0.06**
Size	0.26***	1***	0.33***	-0.01	0.03	-0.03	0.09***
Tan	0.09***	0.33***	1***	-0.03	0.04	-0.03	0.05*
Beta	-0.06**	-0.01	-0.03	1***	0.01	-0.02	-0.04
Profit	0.02	0.03	0.04	0.01	1***	-0.78***	0.01
NDTS	-0.02	-0.03	-0.03	-0.02	-0.78***	1***	-0.01
ETR	0.06**	0.09***	0.05*	-0.04	0.01	-0.01	1***

Legend : AAA – Earnings Management via Absolute-Value Abnormal Accruals; Varida – Industry Mean Debt-to-Asset Variation; Varrmda – Market Mean Debt-to-Asset Variation; Q – Approximate Tobin's *Q*; ROA – Return on Assets; Age – Logarithmic Firm Age; Size – Logarithmic Firm Assets; Tan – Asset Tangibility or PPE over Assets; Profit – Profitability or Pre-tax profit over Operating Revenue; Beta – Operating Risk or Beta to the Market index; NDTS – Non-debt Tax Shield or Depreciation over Operating Revenue; ETR – Effective Tax Rate or Tax-paid over Earnings before Tax; * - Significant with 90% level of confidence; ** - Significant with 95% level of confidence ; *** - Significant with 99% level of confidence.

The regressor variables were checked for the presence of multicollinearity using a variance inflation factor technique (Marquard, 1970). As detailed in Section 4.6.1, there is no evidence of harmful multicollinearity amongst regressor variables. This suggests that the partial collinearity among independent control variables above do not pose a threat to the efficiency of the cross-sectional OLS regressions in hypotheses testing. This is verified by the SPSS statistical package's condition indices (Belsley, Kuh & Welsch, 1980) acquired during testing.

4.3 Testing for Earnings Management

Testing the interdependency of Earnings Management requires a two-stage procedure. Initially, a firm's Modified Jones' Absolute-value Abnormal Accruals (AAA)

must be calculated. Subsequently, the AAA data is utilized in OLS regressions for hypotheses testing.

4.3.1 Stage 1: Acquiring AAA

The Modified Jones' Absolute-value Abnormal Accruals (AAA) is calculated in two steps. First, accrual coefficients are estimated using the following equation for each industry group, as discussed in Section 3.4.1:

$$TA_{j,g}/A_{j,g} = \gamma_0 \, (1/A_{j,g}) + \gamma_1 \, ((\Delta REV_{j,g} - \Delta REC_{j,g})/A_{j,g}) + \gamma_2 \, (PPEj_{,g}/A_{j,g})$$

As proposed by Dechow, Sweeney and Sloan (1995), this regression provides an OLS expectation ("average" if you may) of a firm's discretionary accrual level. Subsequently, the OLS regression undertaken yielded the following results for each industry sector:

Table 4.7 Accrual Estimators by Industry

	γ_0	γ_1	γ_2
Industry *Consumer*	184,217.40	(0.0060)	(0.0522)
Industry *Staples*	12,352.28	0.0603	(0.0383)
Industry *Energy*	(743,230.50)	0.3936	(0.2282)
Industry *Financials*	(21,365.23)	(0.1733)	0.0005
Industry *Health*	(442,265.20)	0.2864	(0.5116)
Industry *Industrial*	(18,075.41)	0.0391	(0.0620)
Industry *Technology*	144,208.80	(0.0739)	1.3458
Industry *Materials*	(295,427.00)	(0.0651)	(0.0479)
Industry *Communications*	(25,545.99)	0.0014	(0.1955)
Industry *Utilities*	(369,540.50)	(0.0760)	(0.0284)

The second step involves the calculation of non-discretionary accruals on the above estimated accrual coefficients. The Modified Jones' Absolute-value Abnormal Accruals (AAA) is obtained from the following formula, as detailed in Section 3.4.1:

$$AAA_j = \left| TA_j/A_j - \{ \hat{\gamma}_0(1/A_j) + \hat{\gamma}_1((\Delta REV_j - \Delta REC_j)/A_j) + \hat{\gamma}_3(PPE_j/A_j) \} \right|$$

The AAA data can then be applied to Stage 2's hypotheses testing.

4.3.2 Stage 2a: Testing Hypothesis 1a

After data for the AAA dependent variables has been computed, Hypothesis 1a and Hypothesis 1b can then be tested via cross-sectional OLS regression outlined in Section 3.2.1. Hypothesis 1a tests the dependency of AAA on family involvement as presented in the OLS Regression equation 1a:

Earnings Management = β_0 + β_1Family + β_2Age + β_3Size + β_4Asset_Tangibility + β_5Industry_Consumer + β_6Industry_Staples + β_7Industry_Energy + β_8Industry_Financials + β_9Industry_Healthcare + β_{10}Industry_Industrials + β_{11}Industry_Information Technology + β_{12}Industry_Materials + β_{13}Industry_Telecom + β_{14}Industry_Utilities + ε

The results of the above regression equation are presented in Table 4.8:

Table 4.8 Results of Regression 1a

Dependent Variable : AAA		
	Hypothesis 1a: Family Firms	
	Coefficient	T-Statistic
Intercept	0.8767	4.7734***
Family	**-0.0830**	**-2.2453****
Age	0.0237	1.6040
Size	-0.0450	-6.5848***
Tangibility	-0.0158	-0.2325
Industry *Consumer*	0.0764	0.5235
Industry *Staples*	0.0030	0.0189
Industry *Energy*	0.2504	1.7153*
Industry *Financials*	0.1133	0.7827
Industry *Health*	0.0242	0.1650
Industry *Industrial*	-0.0123	-0.0849
Industry *Technology*	0.3203	2.1475**
Industry *Materials*	0.0586	0.4121
Industry *Communications*	0.0420	0.2493
Adjusted R^2	7.114%	

* - Significant with 90% level of confidence
** - Significant with 95% level of confidence
*** - Significant with 99% level of confidence

The results of Regression 1a indicate that family firms have lower earnings management, with a Modified Jones' Absolute-value Abnormal Accrual (AAA) coefficient of -0.083, than non-family firms within a 95% level of confidence. As discussed in Section 3.4.1, these accrual measures underpin the level of earnings management within firms (Jones, 1991; Dechow, Sloan & Sweeney, 1995). These findings are consistent with the outcome of non-parametric testing as presented in Appendix 3. Further, as a substitute for a hypothetical truth-inducing contract, earnings management reflects the level of information asymmetry within a firm (Ronen & Yaari, 2007; Ari, Glover & Sunder, 1998; Peasnell, Pope & Young, 2005). Subsequently, these results suggest that family firms have lower information asymmetry vis-à-vis non-family firms. Thus, Regression 1a provides an empirical validation of Hypothesis 1a.

Among the independent control variables, *Firm Size* was shown to be a negative and significant determinant (-0.045) of earnings management within a 99% level of confidence. This result is in agreement with earlier empirical findings (Dhaliwal, Salomon & Smith, 1982; Warfield, Wild & Wild, 1995). Chaney and Jeter (1992) provide a plausible interpretation of this result by suggesting that larger firms have more relevant accounting disclosures and hence, lower earnings management, due to an increased market scrutiny over their accounting choices vis-à-vis smaller firms (Warfield, Wild & Wild, 1995).

4.3.3 Stage 2b: Testing Hypothesis 1b

Hypothesis 1b tests for the moderating effect of family firm managerial ownership on earnings management. As described in Section 3.2.1, empirical testing is conducted through the cross-sectional OLS Regression equation 1b:

Earnings Management = β₀ + β₁Family*Governance + β₂Age + β₃Size + β₄Asset_Tangibility + β₅Industry_Consumer + β₆Industry_Staples + β₇Industry_Energy + β₈Industry_Financials + β₉Industry_Healthcare + β₁₀Industry_Industrials + β₁₁Industry_Information Technology + β₁₂Industry_Materials + β₁₃Industry_Telecom + β₁₄Industry_Utilities + ε

The results of the above regression equation are presented in Table 4.9:

Table 4.9 Results of Regression 1b

Dependent Variable : AAA		
	Hypothesis 1b: O-M Family Firms	
	Coefficient	T-Statistic
Intercept	0.8813	4.7935***
Family*Governance	**-0.0892**	**-2.1242****
Age	0.0230	1.5585
Size	-0.0452	-6.6024***
Tangibility	-0.0147	-0.2160
Industry *Consumer*	0.0715	0.4902
Industry *Staples*	-0.0017	-0.0106
Industry *Energy*	0.2467	1.6896*
Industry *Financials*	0.1097	0.7578
Industry *Health*	0.0184	0.1255
Industry *Industrial*	-0.0161	-0.1110
Industry *Technology*	0.3189	2.1382**
Industry *Materials*	0.0574	0.4036
Industry *Communications*	0.0434	0.2577
Adjusted R²	7.0779%	

* - Significant with 90% level of confidence
** - Significant with 95% level of confidence
*** - Significant with 99% level of confidence

These results show that owner-manager led family firms have lower levels of Modified Jones' Absolute-value Abnormal Accrual (-0.089) than other firms within a 95% level of confidence. Moreover, the presence of managerial ownership in family firms lead lower levels of Modified Jones' Absolute-value Abnormal Accrual (-0.089) than that of the levels of Modified Jones' Absolute-value Abnormal Accrual (-0.083) brought about by the presence of family firms in general (Table 4.8). The outcome of non-parametric testing, as presented in Appendix 3, confirms these findings. Thus, the

results of Regression 1b suggest that, as a confirmation of Hypothesis 1b, owner-manager led family firms have lower earnings management vis-à-vis other types of family firms.

Similar to Regression 1a, among control variables, *Firm Size* was shown to be a negative and significant (-0.45) determinant of earnings management within a 99% level of confidence. Subsequently, this result can be interpreted in a similar fashion with that of Regression 1a.

4.4 Testing for Capital Structure Variation

Empirical tests on capital structure variation require a two-stage procedure. Initially, the proxy optimal capital structure level is calculated from industry and market averages and individual variations of firm capital structure levels are obtained. After these variation data are calculated, they can be used as the dependent variables for hypotheses testing purposes.

4.4.1 Stage 1: Acquiring Varida and Varmda

A firm's capital structure variation is measured in two alternate ways: (1) the difference between a firm's debt-to-asset ratio and the industry average (Varida), and (2) the difference between a firm's debt-to-asset ratio and the market average (Varmda). As described in Section 3.4.2, the optimal capital structure level is measured via industry and market arithmetic means of the debt-to-asset ratio. The measurement yielded the following results:

Table 4.10 Average Debt-Asset Level by Industry and Market

Optimal Capital Structure: Average Debt-to-Asset Level	
Industry *Consumer*	25.1%
Industry *Staples*	33.8%
Industry *Energy*	7.3%
Industry *Financials*	16.4%
Industry *Health*	10.5%
Industry *Industrial*	19.1%
Industry *Technology*	16.1%
Industry *Materials*	8.1%
Industry *Communications*	12.6%
Industry *Utilities*	32.0%
Market Average	14.4%

Consequently, as discussed in Section 3.4.2, Varida and Varmda data for each individual firm can be obtained via the following equation:

$$CS_i = \left(\frac{BV_i(debt)}{BV_i(asset)} - \frac{BV_m(debt)}{BV_m(asset)} \right)^2$$

4.4.2 Stage 2a: Testing Hypothesis 2a

Post compilation of Varida and Varmda data, Hypothesis 2a and Hypothesis 2b can then be tested via cross-sectional OLS regression outlined in Section 3.2.2. Hypothesis 2a tests the dependency of Varida and Varmda on family involvement as presented in the OLS Regression equation 2a:

Capital Structure Variation = β_0 + β_1Family + β_2Age + β_3Size + β_4Asset_ Tangibility + β_5Industry_Consumer + β_6Industry_Staples + β_7Industry_Energy + β_8Industry_Financials + β_9Industry_Healthcare + β_{10}Industry_Industrials + β_{11}Industry_Information Technology + β_{12}Industry_Materials + β_{13}Industry_Telecom + β_{14}Industry_Utilities + β_{15}Profitability + β_{16}Operating Risk + β_{17}Non-Debt Tax Shield + β_{18}Effective Tax Rate + ε

where Varida and Varmda are applied as the data for *Capital Structure Variation* alternately. The results of the above regression equation are presented in Table 4.11:

Table 4.11 Results of Regression 2a

Dependent Variable:	Varida (Industry vs. Firm D/A)		Varmda (Market vs Firm D/A)	
	Hypothesis 2a: Family Firms		*Hypothesis 2a: Family Firms*	
	Coefficient	T-Statistic	Coefficient	T-Statistic
Intercept	0.4766	1.4421	0.5160	1.5462
Family	**0.1197**	**1.8018[*]**	**0.1178**	**1.7566[*]**
Age	0.0230	0.8664	0.0225	0.8380
Size	-0.0253	-2.0576[**]	-0.0256	-2.0639[**]
Tangibility	0.1522	1.2436	0.1529	1.2368
Operating Risk	-0.0610	-1.6128	-0.0629	-1.6461
Profitability	-4.02e-7	-0.0234	-5.90e-7	-0.0340
Effective Tax Rate	-0.0168	-0.3795	-0.0191	-0.4289
Non-Debt Tax Shield	-6.91e-6	-0.0364	-6.81e-6	-0.0356
Industry *Consumer*	-0.0436	-0.1663	-0.0628	-0.2371
Industry *Staples*	-0.0282	-0.0997	-0.0217	-0.0759
Industry *Energy*	-0.1121	-0.4273	-0.1392	-0.5253
Industry *Financials*	-0.0112	-0.0430	-0.0413	-0.1572
Industry *Health*	-0.0895	-0.3398	-0.1199	-0.4505
Industry *Industrial*	-0.0921	-0.3541	-0.1207	-0.4596
Industry *Technology*	0.2090	0.7801	0.1778	0.6574
Industry *Materials*	-0.0961	-0.3763	-0.1240	-0.4810
Industry *Communications*	-0.1114	-0.3679	-0.1423	-0.4655
Adjusted R^2	0.4771%		0.4663%	

* - Significant with 90% level of confidence
** - Significant with 95% level of confidence
*** - Significant with 99% level of confidence

Table 4.11 shows that family firms have greater capital structure variation than non-family firms. Specifically, they are +0.12 within 90% level of confidence for variations from the industry mean (Varida), and +0.118 within 90% level of confidence for variations from the market mean (Varmda). These findings are consistent with the outcome of non-parametric testing as presented in Appendix 3. As discussed in Section 3.4.2, capital structure variation provides a measure of non-economic objectives (Berger, Ofek & Yermack, 1997). The results of Regression 2a suggest that, as posited in Hypothesis 2a, family firms have a greater level of non-economic objectives than those of non-family firms.

Among the independent control variables, *Firm Size* was shown to be a negative and significant determinant of capital structure variation. For both Varida and Varmda measures, the coefficient of Firm Size (-0.252 and -0.253 respectively) was significant at a 95% level of confidence. Intuitively, this suggests that larger firms have the benefit of economies-of-scale, allowing them greater access to capital structure management tools that enable them to optimize their capital structure decisions, thus reducing capital structure variation. This is consistent with studies that show firm size as a salient feature of capital structure decisions since larger firms have lower external financing costs (Chittenden, Hall & Hutchinson, 1996; Romano, Tanewski & Smyrnios, 2000).

4.4.3 Stage 2b: Testing Hypothesis 2b

Hypothesis 2b tests for the moderating effect of family firm managerial ownership on capital structure variation. As described in Section 3.2.2, empirical testing is conducted through the cross-sectional OLS Regression equation 2b:

Capital Structure Variation= β_0 +β_1Family*Governance + β_2Age + β_3Size + β_4Asset_ Tangibility + β_5Industry_Consumer + β_6Industry_Staples + β_7Industry_Energy + β_8Industry_Financials + β_9Industry_Healthcare + β_{10}Industry_Industrials + β_{11}Industry_Information Technology + β_{12}Industry_Materials + β_{13}Industry_Telecom + β_{14}Industry_Utilities + β_{15}Profitability + β_{16}Operating Risk + β_{17}Non-Debt Tax Shield + β_{18}Effective Tax Rate + ε

where Varida and Varmda are applied as the data for *Capital Structure Variation* alternately. The results of the above regression equation are presented in Table 4.12:

Table 4.12 Results of Regression 2b

Dependent Variable:	Varida (Industry vs. Firm D/A)		Varmda (Market vs Firm D/A)	
	Hypothesis 2b:O-M Family Firms		*Hypothesis 2b: O-M Family Firms*	
	Coefficient	T-Statistic	Coefficient	T-Statistic
Intercept	0.4608	1.3942	0.5012	1.5014
Family * Governance	**0.1630**	**2.1624**[**]	**0.1580**	**2.0753**[**]
Age	0.0241	0.9058	0.0235	0.8760
Size	-0.0247	-2.0095[**]	-0.0251	-2.0189[**]
Tangibility	0.1510	1.2341	0.1516	1.2272
Operating Risk	-0.0623	-1.6502[*]	-0.0642	-1.6828[*]
Profitability	-2.43e-7	-0.0141	-4.37e-7	-0.0252
Effective Tax Rate	-0.0165	-0.3748	-0.0189	-0.4238
Non-Debt Tax Shield	-6.46e-6	-0.0341	-6.46e-6	-0.0338
Industry *Consumer*	-0.0422	-0.1611	-0.0610	-0.2306
Industry *Staples*	-0.0228	-0.0807	-0.0163	-0.0571
Industry *Energy*	-0.1063	-0.4054	-0.1335	-0.5041
Industry *Financials*	-0.0069	-0.0264	-0.0369	-0.1407
Industry *Health*	-0.0806	-0.3061	-0.1111	-0.4179
Industry *Industrial*	-0.0877	-0.3373	-0.1163	-0.4431
Industry *Technology*	0.2079	0.7765	0.1770	0.6545
Industry *Materials*	-0.0938	-0.3675	-0.1218	-0.4726
Industry *Communications*	-0.1201	-0.3969	-0.1505	-0.4922
Adjusted R^2	0.5816%		0.5555%	

* - Significant with 90% level of confidence
** - Significant with 95% level of confidence
*** - Significant with 99% level of confidence

The above results indicate that owner-managed family firms have greater capital structure variation than other firms. Specifically, family firms are +0.163 within 95% level of confidence for variations from the industry mean (Varida), and +0.158 within 95% level of confidence for variations from the market mean (Varmda). Moreover, the presence of managerial ownership in family firms lead greater capital structure variation (+0.163 and +0.158 for Varida and Varmda, respectively) than that of the capital structure variation (+0.12 and +0.118 for Varida and Varmda, respectively) brought about by the presence of family firms in general (Table 4.11). The outcome of non-parametric testing, as presented in Appendix 3, partially confirms these findings. Hence,

the results of Regression 2b indicate that owner-manager led family firms have a greater presence of non-economic objectives than those of other family firms. The results provide empirical confirmation of Hypothesis 2b.

Similar to Regression 2a, *Firm Size* was shown to be a negative and significant determinant of capital structure variation among control variables. For both Varida and Varmda measures, the coefficient of Firm Size (-0.247 and -0.25 respectively) was significant at a 95% level of confidence. Thus, this result can be interpreted in a similar manner with that of Regression 2a. Among debt-related control variables, the firm's *Operating Risk* was shown to be a negative and significant determinant of capital structure variation within a 90% level of confidence for both Varida (-0.062) and Varmda (-0.064) measures. High operating risks may affect the risk wherein owner-managers are exposed to, and hence may influence managerial decision-making (Crutchley & Hansen, 1989; Mishra & McConaughy, 1999). When operating risks are high, managers may avoid utilizing leverage. Thus, this limits the range of internal and external financing options available to these firms, and consequently, may explain why capital structure variation is lower.

4.5 Testing for Firm Performance

Firm performance is operationalized in two alternate measures, Tobin's Q (Q) and Return on Assets (ROA). Data for these dependent variables are obtained by the following ratios, as described in Section 3.4.3:

$$Q = \left(\frac{MVE + STD + LTD}{A} \right), \text{ and}$$

$$ROA = \left(\frac{NI}{A} \right)$$

Subsequently, these data are utilized in OLS regressions for hypotheses testing.

4.5.1 Testing Hypothesis 3a

Cross-sectional OLS regression, as outlined in Section 3.2.3, is used to test for Hypothesis 3a. Hypothesis 3a provides an empirical measure of the interdependency of Q and ROA on family involvement. This is presented in the OLS Regression equation 3a:

Firm Performance = β_0 + β_1Family + β_2Age + β_3Size + β_4Asset_ Tangibility + β_5Industry_Consumer + β_6Industry_Staples + β_7Industry_Energy + β_8Industry_Financials + β_9Industry_Healthcare + β_{10}Industry_Industrials + β_{11}Industry_Information Technology + β_{12}Industry_Materials + β_{13}Industry_Telecom + β_{14}Industry_Utilities + ε

where Q and ROA are applied as the data for *Firm Performance* alternately. The results of the above regression equation are presented in Table 4.13:

Table 4.13 Results of Regression 3a

Dependent Variable:	Q		ROA	
	Hypothesis 3a: Family Firms		**Hypothesis 3a: Family Firms**	
	Coefficient	T-Statistic	Coefficient	T-Statistic
Intercept	4.0050	6.4972[***]	-1.9161	-9.2683[***]
Family	**0.3188**	**2.5709[**]**	**0.0967**	**2.3243[**]**
Age	-0.0029	-0.0587	-0.0045	-0.2715
Size	-0.1323	-5.7695[***]	0.0981	12.757[***]
Tangibility	-0.0117	-0.0512	-0.0497	-0.6480
Industry *Consumer*	0.1914	0.3908	0.0946	0.5758
Industry *Staples*	-0.1525	-0.2885	-0.0055	-0.0311
Industry *Energy*	0.5205	1.0622	0.0825	0.5018
Industry *Financials*	-0.0548	-0.1128	0.1052	0.6459
Industry *Health*	1.0405	2.1148[**]	-0.2619	-1.5869
Industry *Industrial*	0.2545	0.5239	0.1309	0.8034
Industry *Technology*	0.3441	0.6875	-0.0168	-0.0999
Industry *Materials*	0.5549	1.1635	0.0510	0.3188
Industry *Communications*	0.8166	1.4438	0.0200	0.1057
Adjusted R^2	8.8346%		18.5457%	

* - Significant with 90% level of confidence
** - Significant with 95% level of confidence
*** - Significant with 99% level of confidence

These results indicate that family firms have greater firm performance than non-family firms. Specifically, Family firms are +0.319 within 95% level of confidence for approximate Tobin's Q (Q) efficiency measure, and +0.097 within 95% level of confidence for return-on-assets (ROA) performance measure. These findings are consistent with the outcome of non-parametric testing as presented in Appendix 3. Thus, the results of Regression 3a are consistent with Hypothesis 3a. Further, these Australian results are consistent with previous family business performance studies on large firms from other countries (Anderson & Reeb, 2003; Mishra, Randoy & Goel, 2001; Randoy & Goel, 2003; McConaughy, Matthews & Fialko, 2004; Lee, 2004; Ng, 2005; Villalonga & Amit, 2006).

Among the independent control variables, *Firm Size* was shown to be (1) a negative significant determinant (-0.132) of approximate Tobin's Q within a 99% level of confidence, and (2) a positive significant determinant (0.098) of ROA within a 99% level of confidence. As discussed in Section 4.2.2, this curious result may stem from a difference in orientation of these performance measures. Further, these results are consistent with extant family literature. On one hand, Anderson and Reeb (2003) and Randoy and Goel (2003) find that firm size to be a negative determinant of market measures of performance (Tobin's Q), which suggests that markets may expect larger firms to have lower or diminishing rates of growth and efficiency in asset utilization. On the other hand, Anderson and Reeb (2003), [8] and Randoy and Goel (2003) find firm size to be a positive determinant of return on assets (ROA). This may suggest that larger firms

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[8] Anderson & Reeb (2003) find a positive and significant relationship between EBIDTA-measured ROA and firm size.

have economies-of-scale that enable them to maximize their efficiency in utilizing existing assets (Dalton, Daily, Johnson & Ellstand, 1999).

4.5.2 Testing Hypothesis 3b

Hypothesis 3b tests for the moderating effect of family firm managerial ownership on firm performance. As described in Section 3.2.3, empirical testing is conducted through the cross-sectional OLS Regression equation 3b:

Firm Performance = β_0 + β_1Family*Governance + β_2Age + β_3Size + β_4Asset_ Tangibility + β_5Industry_Consumer + β_6Industry_Staples + β_7Industry_Energy + β_8Industry_Financials + β_9Industry_Healthcare + β_{10}Industry_Industrials + β_{11}Industry_Information Technology + β_{12}Industry_Materials + β_{13}Industry_Telecom + β_{14}Industry_Utilities + ε

where Q and ROA are applied as the data for *Firm Performance* alternately. The results of the above regression equation are presented in Table 4.14:

Table 4.14 Results of Regression 3b

Dependent Variable:	Q		ROA	
	Hypothesis 3b:O-M Family Firms		*Hypothesis 3b: O-M Family Firms*	
	Coefficient	T-Statistic	Coefficient	T-Statistic
Intercept	3.9556	6.4206[***]	-1.9208	-9.2803[***]
Family * Governance	**0.4545**	**3.2301[***]**	**0.1015**	**2.1470[**]**
Age	6.84e-5	0.0014	-0.0037	-0.2252
Size	-0.1306	-5.6955[***]	0.0983	12.7653[***]
Tangibility	-0.0147	-0.0644	-0.0510	-0.6653
Industry *Consumer*	0.1924	0.3937	0.1007	0.6131
Industry *Staples*	-0.1380	-0.2614	-3.74e-5	-0.0002
Industry *Energy*	0.5362	1.0959	0.0868	0.5278
Industry *Financials*	-0.0443	-0.0913	0.1095	0.6719
Industry *Health*	1.0646	2.1670[**]	-0.2552	-1.5459
Industry *Industrial*	0.2658	0.5480	0.1354	0.8306
Industry *Technology*	0.3397	0.6796	-0.0150	-0.0893
Industry *Materials*	0.5613	1.1785	0.0524	0.3272
Industry *Communications*	0.7898	1.3980	0.0189	0.0993
Adjusted R^2	9.0888%		18.4984%	

* - Significant with 90% level of confidence
** - Significant with 95% level of confidence
*** - Significant with 99% level of confidence

Table 4.14 indicates that owner-manager led family firms have greater firm performance than other firms. Specifically, the results show coefficients of +0.455 within 95% level of confidence for approximate Tobin's *Q* efficiency measure, and +0.102 within 95% level of confidence for Return-on-assets performance measure. Moreover, the presence of managerial ownership in family firms lead greater firm performance (+0.455 and +0.102 for approximate Tobin's *Q* and Return-on-assets, respectively) than that of the firm performance measures (+0.319 and +0.0967 for approximate Tobin's *Q* and Return-on-assets, respectively) brought about by the presence of family firms in general (Table 4.13). These findings are confirmed by the outcome non-parametric testing, as presented in Appendix 3. The results of Regression 3b suggest that, consistent with Hypothesis 3b, owner-manager led family firms outperform other forms of family firms.

Similar to Regression 3a, among the independent control variables, *Firm Size* was shown to be (1) a negative significant determinant (-0.132) of approximate Tobin's *Q* within a 99% level of confidence, and (2) a positive significant determinant (0.098) of approximate Tobin's *Q* within a 99% level of confidence. This result may be consistently interpreted likewise with that of Regression 3a.

4.6 Robustness Checks on OLS Techniques

The above empirical assessments were undertaken using cross-sectional OLS regressions on ex-post data. To ensure the robustness of the statistical techniques employed, the models are tested for OLS assumptions of non-multicollinearity, non-autocorrelation, homoskedasticity and normality.

4.6.1 Multicollinearity Tests

Multicollinearity refers to the degree in which two or more independent variables are correlated with each other. Deleterious levels of multicollinearity may affect OLS regressions by producing inefficient results. Utilizing Marquard's (1970) variance inflation factors as a technique in identifying harmful multicollinearity in our sample yields the following results:

Table 4.15 Test for Multicollinearity

Multicollinearity Test: Variance Inflation Factors		
	Family and Controls	*Family*Governance and Controls*
Family	1.0396	
Family * Governance		1.0379
Age	1.0952	1.0953
Size	1.3772	1.3793
Tangibility	1.2362	1.2360
Operating Risk	1.0206	1.0198
Profitability	2.4795	2.4796
Effective Tax Rate	2.4870	2.4869
Non-Debt Tax Shield	1.0261	1.0259

Variables with a variance inflation factor of 10 or greater, by rule-of-thumb, are deemed to have serious multicollinearity issues. Table 4.15 illustrates that there is no inherent problem of multicollinearity among the independent variables.

4.6.2 Autocorrelation Tests

A high degree of correlation among residuals of the regressions' datasets may produce inefficient results. As such, the presence of serial correlation among the OLS regressions is checked using Durbin and Watson's (1950, 1951) test statistic. This resulted in the following:

Table 4.16 Test for Serial Correlation

OLS Regression	Dependent Variable	Durbin-Watson Statistic
Regression 1a	AAA	2.0500
Regression 1b	AAA	2.0522
Regression 2a	Varida	2.0008
Regression 2b	Varida	1.9935
Regression 2a	Varmda	2.0003
Regression 2b	Varmda	1.9932
Regression 3a	Tobin's Q	1.9736
Regression 3b	Tobin's Q	1.9755
Regression 3a	ROA	1.8504
Regression 3b	ROA	1.8519

Legend : AAA – Earnings Management via Absolute-Value Abnormal Accruals; Varida – Industry Mean Debt-to-Asset Variation; Varrmda – Market Mean Debt-to-Asset Variation; Q – Approximate Tobin's Q; ROA – Return on Assets

A commonly used benchmark in identifying no serious serial correlation is between a Durbin-Watson Statistic of 1.5 and 2.5. Therefore, Table 4.16 shows that the OLS regressions are free from problematic autocorrelation problems.

4.6.3 Tests for Heteroskedasticity

Standard OLS regression procedure assumes that the residual variance of a variable is constant. If this assumption is violated (a condition called heteroskedasticity) inefficient results may arise. White's (1980) test shows whether this condition is present among the OLS regressions, as shown in Table 4.17:

Table 4.17 White Test for Heteroskedasticity

OLS Regression	Dependent Variable	White Residual Test
Regression 1a	AAA	0.7396
Regression 1b	AAA	0.7248
Regression 2a	Varida	1.0553
Regression 2b	Varida	1.1223
Regression 2a	Varmda	1.0592
Regression 2b	Varmda	1.1252
Regression 3a	Tobin's Q	2.8593[***]
Regression 3b	Tobin's Q	3.1241[***]
Regression 3a	ROA	2.0313[***]
Regression 3b	ROA	2.0084[***]

Legend : AAA – Earnings Management via Absolute-Value Abnormal Accruals; Varida – Industry Mean Debt-to-Asset Variation; Varrmda – Market Mean Debt-to-Asset Variation; Q – Approximate Tobin's Q; ROA – Return on Assets

The above table suggests that Regression 3a and 3b, either using Tobin's *Q* or ROA as dependent variables for firm performance, have heteroskedastic residuals. Consequently, these results may be inefficient.

As shown in Table 4.18 and Table 4.19, these regressions can be adjusted using White's procedure to account for the presence of heteroskedasticity. After adjusting for heteroskedasticity, the new regressions do not provide any contradictory results from that of Table 4.14 and Table 4.15. Thus, heteroskedasticity does not affect the conclusions derived from the earlier results.

Table 4.18 White-Adjusted Regression 3 (Tobin's Q)

Dependent Variable : Firm Performance (Approximate *Tobin's* Q) White Heteroskedasticity Adjusted				
	Regression 3a: Family Firms		*Regression 3b: O-M Family Firms*	
	Coefficient	T-Statistic	Coefficient	T-Statistic
Intercept	4.0050	8.3213***	3.9556	8.2497***
Family	**0.3188**	**1.9091***		
Family * Governance			**0.4545**	**2.1636****
Age	-0.0029	-0.0625	6.84e-5	0.0015
Size	-0.1323	-5.4849***	-0.1306	-5.4536***
Tangibility	-0.0117	-0.0710	-0.0147	-0.0893
Industry *Consumer*	0.1914	0.7100	0.1924	0.7120
Industry *Staples*	-0.1525	-0.5618	-0.1380	-0.5073
Industry *Energy*	0.5205	1.9060*	0.5362	1.9558*
Industry *Financials*	-0.0548	-0.2097	-0.0443	-0.1685
Industry *Health*	1.0405	3.3926***	1.0646	3.4469***
Industry *Industrial*	0.2545	0.9413	0.2658	0.9778
Industry *Technology*	0.3441	1.0962	0.3397	1.0777
Industry *Materials*	0.5549	2.1562**	0.5613	2.1679**
Industry *Communications*	0.8166	1.1767	0.7898	1.1435
Adjusted R^2	8.8346%		9.0888%	

Table 4.19 White-Adjusted Regression 3 (ROA)

	Regression 3a: Family Firms		*Regression 3b: O-M Family Firms*	
Dependent Variable : Firm Performance (Return on Assets) **White Heteroskedasticity Adjusted**	Coefficient	T-Statistic	Coefficient	T-Statistic
Intercept	-1.9161	-9.5083***	-1.9208	-9.4909***
Family	**0.0967**	**2.5859*****		
Family * Governance			**0.1015**	**2.2985****
Age	-0.0045	-0.3433	-0.0037	-0.2853
Size	0.0981	8.6943***	0.0983	8.6847***
Tangibility	-0.0497	-1.0759	-0.0510	-1.1017
Industry *Consumer*	0.0946	1.5517	0.1007	1.6574*
Industry *Staples*	-0.0055	-0.0775	-3.74e-5	-0.0005
Industry *Energy*	0.0825	1.4435	0.0868	1.5159
Industry *Financials*	0.1052	1.8810*	0.1095	1.9606*
Industry *Health*	-0.2619	-3.2512***	-0.2552	-3.1685***
Industry *Industrial*	0.1309	2.3179**	0.1354	2.3965**
Industry *Technology*	-0.0168	-0.1293	-0.0150	-0.1157
Industry *Materials*	0.0510	0.9139	0.0524	0.9377
Industry *Communications*	0.0200	0.2006	0.0189	0.1887
Adjusted R^2	18.5457%		18.4984%	

4.6.4 Tests for Normality

Hypothesis testing based on OLS regression results assumes that residuals follow a normal distribution. In order to test the robustness of this assumption, the probability distribution of each OLS regression residual is modeled, and appropriate critical values (in place of the t-test critical values) selected. The relationship between dependent and independent variables can then be tested using this simulated function.

The probability distribution of the regression residuals is generated using a Monte Carlo simulation (Metropolis & Ulam, 1949). Specifically, the following steps are undertaken to perform a bootstrapping technique (Efron, 1981):

- Model the OLS regression equation under the null hypothesis and randomly generate one thousand (1,000) sample data for the dependent variable;

- Obtain the t-statistics for the re-modeled equation;

- Repeat steps 1 and 2 one thousand (1,000) times;

- Arrange the estimated t-statistic values from step 2 in ascending order;

- Obtain the appropriate critical value from the range of t-statistic values.

Appendix 2 provides a summary of the results of the bootstrapping exercise. The significant results from the bootstrapping exercise are consistent with earlier results based on the normality assumption. Therefore, the robustness checks utilizing the above bootstrapping technique confirm earlier conclusions established based on these assumptions.

4.7 Summary of Results

Table 4.20 provides a summary of the empirical results discussed from Section 4.3 to Section 4.5.

Table 4.20 Summary of Empirical Results

Hypothesis	Dependent Variable	Description	Expectations	Significant?	Reject Null?
Hypothesis 1a	AAA	Family Firms have lower earnings management than other firms	$H1a_a: \beta_1 < 0$	Yes	Yes
Hypothesis 1b	AAA	OM Family firms have lower earnings management than other family firms	$H1b_a: \beta_1 < 0$	Yes	Yes
			$H1b_a: \beta_1 < \beta_{1(H1a)}$	Yes	
Hypothesis 2a	Industry vs. D/A Var.	Family firms have greater capital structure variation than other firms	$H2a_a: \beta_1 > 0$	Yes	Yes
Hypothesis 2b	Industry vs. D/A Var.	OM Family firms have greater capital structure variation than other family firms	$H2b_a: \beta_1 > 0$	Yes	Yes
			$H2b_a: \beta_1 > \beta_{1(H2a)}$	Yes	
Hypothesis 2a	Market vs. D/A Var.	Family firms have greater capital structure variation than other firms	$H2a_a: \beta_1 > 0$	Yes	Yes
Hypothesis 2b	Market vs. D/A Var.	OM Family firms have greater capital structure variation than other family firms	$H2b_a: \beta_1 > 0$	Yes	Yes
			$H2b_a: \beta_1 > \beta_{1(H2a)}$	Yes	
Hypothesis 3a	Tobin's Q	Family firms outperform non-family firms	$H3a_a: \beta_1 > 0$	Yes	Yes
Hypothesis 3b	Tobin's Q	Owner Managed Family firms outperform other family firms	$H3b_a: \beta_1 > 0$	Yes	Yes
			$H3b_a: \beta_1 > \beta_{1(H3a)}$	Yes	
Hypothesis 3a	ROA	Family firms outperform non-family firms	$H3a_a: \beta_1 > 0$	Yes	Yes
Hypothesis 3b	ROA	Owner Managed Family firms outperform other family firms	$H3b_a: \beta_1 > 0$	Yes	Yes
			$H3b_a: \beta_1 > \beta_{1(H3a)}$	Yes	

Based on these empirical results, the following observations can be made for family firms:

- Family firms have significantly lower earnings management than non-family firms;

- Family firms have significantly greater capital structure variation than non-family firms;

- Family firms have significantly greater Tobin's Q valuation and return on assets than non-family firms.

Further, based on these results, the following observations can be made for owner-manager led family firms:

- Owner-manager led family firms have lower earnings management than other family firms;

- Owner-manager led family firms have greater capital structure variation than other family firms;

- Owner-manager led family firms have significantly greater Tobin's Q valuation and return on assets than non-family firms.

Finally, the robustness checks on these empirical results show that the statistical issues of multicollinearity, serial correlation, heteroskedasticity and normality of residuals do not pose a serious threat to the conclusions established above.

Chapter 5. Discussions and Conclusion

5.1 Introduction

Chapter Five summarizes the thesis and presents the observations and analyses of the research. Further, this chapter highlights the potential limitations of the research, and discusses the specific implications of the study.

Chapter Five proceeds as follows: Section 5.2 provides a summary of the research objectives, methodology, analysis, discussion and conclusions. Section 5.3 addresses the potential internal and external validity limitations of the research and suggests possible directions in future research. Section 5.4 presents the potential practical, regulatory, educational and research implications of this study. Finally, Section 5.5 provides a concluding outline of the chapter.

5.2 Summary of the Research

The objective of this research is to investigate the application of agency theory in family business studies, provide a theoretical framework that is sympathetic to and improves existing research in this area, and find empirical verification for this framework. The research asks the question:

What are the unique agency dynamics that differentiate family firms from non-family firms, how do they affect firm performance, and how does managerial ownership moderate this relationship?

This study is motivated in two ways. First, extant literature in agency theory studies in family businesses paint a conflicting picture (McConaughy, Matthews & Fialko, 2001; Chrisman, Chua & Sharma, 2005; Dyer, 2006), wherein one school of thought suggests that there are fewer agent-principal problems associated with family firms

(Jensen & Meckling, 1976; Daily & Dollinger, 1992), while another school believes that family firms incur greater costs from these aforesaid problems (Schulze, Lubatkin, Dino & Buchholtz, 2001; Gomez-Mejia, Nunez-Nickel & Guttierez, 2001). Second, advancements on the theoretical foundations in family business studies has led to a greater recognition by leading researchers on the need to unify the frameworks of agency theory and resource-based (RBV) theory in explaining the family firm phenomenon (Chrisman, Chua & Sharma, 2005; Habbershon, 2006). Consequently, this study aims to unify both schools of family business agency theorists, and provide a link between family business agency theory and the resource-based framework. In doing so, this research aspires to benefit researchers, educators, regulators, practitioners and investors.

Research into the family business phenomenon suggests that family firms are indelibly characterized by the qualities of personalism and particularism (Carney, 2005; Chrisman, Steier & Chua, 2006). Personalism refers to the incorporation of organization authority towards the dominant family coalition, while particularism refers to altered decision criteria employed by the dominant family coalition arising from the personalization of authority (Carney, 2005). These two qualities foster the necessary conditions that impact principal-agent relationships in family firms. Within the context of the separation of ownership and control, agency costs arise from information asymmetry and misalignment of objectives (Jensen & Meckling, 1976; Morck, Shleifer & Vishny, 1988; Healy & Palepu, 2001). Thus, this research seeks to provide a better understanding of the influence of family firms, driven by personalism and particularism, on their agency frameworks. This is achieved by disentangling the principal-agent relationship into two

distinct and measurable attributes: the agency relationship's level of information asymmetry and the alignment of objectives.

5.2.1 Convergence of Information Asymmetry in Family Firms

Extant literature suggests that personalism and particularism promote conditions that may reduce the level of information asymmetry within family businesses (Fama & Jensen, 1983). For instance, personalism inspires a long-term perspective and strategic coherence in family firms (Kelly, Athanassiou & Crittenden, 2000; Mishra, Randoy & Jenssen, 2001; Le-Breton Miller & Miller, 2006), while particularism fosters trust, symmetric altruism and relational governance within the business (Steier, 2001; Mustakallio, Autio & Zahra, 2002; Schulze, Lubatkin & Dino, 2003; Chrisman, Chua & Sharma, 2005). Lower levels of information asymmetry promote direct and indirect cost-savings to the family firm (Lev, 1989; Wang, Swift & Lobo, 1994; Ali & Hwang, 1995; Graham, Harvey & Rajgopal, 2005). Proposition 1 posits that family firms have lower levels of information asymmetry, hence attain unique agency cost-savings (termed as *family gains*) vis-à-vis non-family firms. This proposition is empirically tested under Hypothesis 1a.

Hypothesis 1a employs earnings management as a measure of the level of information asymmetry between family firms and non-family firms (Ronen & Yaari, 2007; Ari, Glover & Sunder, 1998; Peasnell, Pope & Young, 2005). Concurrently, the degree of earnings management within the firm is also indicative of the severity of agency costs within the firm (Graham, Harvey & Rajgopal, 2005; Ronen & Yaari, 2007). The results reported in Section 4.3 provide observable evidence to show that family firms have lower earnings management than non-family firms. Based on our selected sample, it

is possible to validate Proposition 1 and conclude that family firms have a lower level of information asymmetry than non-family firms, hence engendering *family gains*.

5.2.2 Divergence of Objectives in Family Firms

Prior studies suggest that personalism and particularism within a family firm may empower the dominant family coalition to pursue their own family-centric non-economic objectives (Shleifer & Vishny, 1997; Schulze, Lubatkin, Dino & Buchholtz, 2001; Morck & Yeung, 2003; Chrisman, Chua & Litz, 2004). Personalism may translate into entrenchment and subsequent hold-up, moral hazard and adverse selection problems that accompany that situation (Carney, 2005; Schulze, Lubatkin & Dino, 2003; Gomez-Mejia, Nunez-Nickel & Guttierez, 2001). Particularism may breed asymmetric altruism and likewise result in moral hazard and adverse selection problems (Carney, 2005; Chrisman, Chua & Sharma, 2005; Schulze, Lubatkin & Dino, 2003; Lubatkin, Durand & Ling, 2007). From a business perspective, the presence of non-economic objectives diverts limited resources away from the business' economic goals of maximizing firm value, and increases the dominant family coalition's perception of risk. Consequently, these factors contribute directly and indirectly to agency costs unique to family firms (Mishra & McConaughy, 1999; Gomez-Mejia, Nunez-Nickel & Guttierez, 2001). Proposition 2 posits that family firms have a greater presence of non-economic objectives, hence attain unique agency costs (termed as *family costs*) vis-à-vis non-family firms. This proposition is tested under Hypothesis 2a.

The presence of non-economic objectives implies that family firms make idiosyncratic capital structure decisions which deviate from optimal levels and ultimately lead to unique agency costs (Stultz, 1988; Harris & Raviv, 1988; Mishra & McConaughy,

1999; Gomez-Mejia, Nunez-Nickel & Guttierez, 2001). Thus, Hypothesis 2a employs capital structure variation as an indicator of non-economic objectives within a firm. The results of the test for Hypothesis 2a is reported in Section 4.4. These indicate that family firms do have greater capital structure variations than non-family firms. The empirical results support the notion, based on Proposition 2, that family firms have unique agency costs from a greater presence of non-economic objectives than that of non-family firms, hence incur *family costs*.

5.2.3 Moderating Effects of Managerial Ownership

Owner-manager led firms represent a polar extreme in a firm's choice of governance and management. Moreover, these firms are more likely to be family controlled, (Mishra & McConaughy, 1999). As an extreme case of principal-agent relationships, managerial ownership may provide a foundation for family business agency studies. Specifically, they may be an indicator of a high degree of family involvement in family firms (Mishra & McConaughy, 1999; Ng, 2005). Thus, this research evaluates the relative effects of *family gains* and *family costs* within family firms by analyzing the relative characteristics of owner-manager led family firms.

Managerial ownership magnifies the positive effects of personalism and particularism such that decision-making, strategic control, relational monitoring and managerial flexibility is optimized within family firms (Jensen & Meckling, 1976; Daily & Dollinger, 1992; James, 1999; Lee, 2004). Proposition 3 posits that information asymmetry is lowest, hence *family gains* are greater, in owner-manager led family firms as compared to other types of family firms. Hypothesis 1b extends Hypothesis 1a by specifically analyzing the level of earnings management within owner-manager led

family firms. The regression test of Hypothesis 1b reveal that owner-manager led family firms have lower levels of earning management than other types of family firms. Consequently, the results suggest that owner-manager led family firms have lower levels of information asymmetry, hence greater levels of *family gains*, than other types of family firms. These provide empirical validation for the aforementioned proposition.

On the other hand, managerial ownership amplifies the negative effects of personalism and particularism such that entrenchment and asymmetric altruism problems are potentially maximized (Mishra, Randoy & Jenssen, 2001; Schulze, Lubatkin & Dino, 2003). These problems represent non-economic objectives that, from a business perspective, reduce the overall efficiency and value generation of the firm (McMahon & Stanger, 1995; Lubatkin, Schulze, Ling & Dino, 2005). Proposition 3 posits that the presence of non-economic objectives is most prominent, hence *family costs* are greater, in owner-manager led family firms vis-a-vis other types of family firms. Hypothesis 2b extends Hypothesis 2a by specifically analyzing the capital structure variation within owner-manager led family firms. Results from Hypothesis 2b reveal that owner-manager led family firms have greater levels of capital structure variation than other types of family firms. Consequently, the results suggest that owner-manager led family firms have more non-economic objectives, hence greater levels of *family costs*, than other types of family firms. These results are consistent with Proposition 3.

5.2.4 Firm Performance of Family Firms

The prior empirical tests for Hypothesis 1a and Hypothesis 2a are consistent with Proposition 1 and Proposition 2 respectively. This indicates that family firms have *family gains* and *family costs* vis-à-vis non-family firms. From a resource-based perspective

(Barney, 1991; Habbershon & Williams, 1999), *family gains* and *family costs* represent intangible, rare and dynamic resources unique to family firms that may promote sustainable competitive advantages and disadvantages, respectively. It is theorized that a trade-off between *family gains* and *family costs* occur within family firms since family firms will not undertake any actions that are detrimental to the economic objectives of the business, unless there are sufficient incentives for the family's non-economic objectives to do so. Thus, the question now becomes: is the trade-off between these unique agency cost-savings and agency costs significant enough to materially impact firm performance? Proposition 4 suggests that the sustained trade-off between *family gains* and *family costs* results in either competitive advantages or disadvantages for family firms. Since, under conditions of market competition, competitive disadvantages are not expected to perpetuate (Jensen, 2001; Fama, 1980), it is posited that family firms would exhibit competitive advantages (from surfeit *family gains*) over non-family firms. Post-empirical tests of Hypothesis 1a and Hypothesis 2a, the conditional Hypothesis 3a posits that family firms outperform non-family family. Results from OLS regression from two measures of firm performance (Approximate Tobin's Q and Return on Assets) affirm this hypothesis.

5.2.5 Moderating Effects of Managerial Ownership on Firm Performance

Results from Hypothesis 1b and Hypothesis 2b provide support for Proposition 3. This shows that *family gains* and *family costs* are more pronounced in owner-manager led family firms than in other types of family firms. Further, it is posited that the resultant trade-off is most prominent under conditions of managerial ownership (Jensen & Meckling, 1976; Steier, 2001; Villalonga & Amit, 2006). Proposition 5 suggests that the

trade-off between *family gains* and *family costs*, along with their resulting influence on firm performance, diminish as family involvement in the firm decreases. Hypothesis 3b test this proposition via performance measures of Approximate Tobin's *Q* and Return on Assets, and find that owner-manager led family firms do indeed outperform other forms of family firms. This presents support for the above-mentioned proposition.

5.2.6 Concluding Remarks

This research demonstrates that family firms have lower information asymmetries than non-family firms. Hence, family firms achieve unique agency cost-savings (*family gains*). Further, family firms were found to have a greater presence of non-economic objectives than non-family firms. Thus, family firms accrue unique agency costs (*family gains*). Interestingly, this suggests that the two schools of family business agency theorists discussed earlier do not in fact directly conflict with each other. Rather, our research show these two schools refer to two differing dynamics within agency theory, the level of information asymmetry and the misalignment of goals between principal and agent. As such, this study provides a bridge that reconciles both schools of thought. Further, the identification of *family gains* and *family costs* within family firms lends support to the notion that these idiosyncratic dynamics may be cultivated into sustainable competitive advantages. From this, an Agency Trade-off Model, wherein the trade-off between *family gains* and *family costs* within a family firm determines its relative agency-based competitive advantage over other firms, is proposed. Moreover, these agency dynamics represent resources that link agency theory to the resource-based view in family business studies. Empirically, it was observed that family firms outperform non-family firms, which suggests that the trade-off between *family gains* and *family costs*

result in competitive advantages. Finally, it was found that managerial ownership within family firms magnifies *family gains* and *family costs*. Empirically, these results show that owner-manager family firms outperform other forms of family firms. This suggests that the trade-off between these abovementioned agency dynamics provides a greater net gain arising from greater family involvement and influence. Table 5.1 provides an integrated summary of the findings for this study's propositions and hypotheses.

Table 5.1 Summary of Findings

Proposition	Dependent Variable	Hypothesis	Results
Proposition 1: *Family firms have lower information asymmetry; hence attain family gains vis-à-vis non-family firms, ceteris paribus.*	AAA	***Hypothesis 1a:*** Family firms positively influence *family gains* from lower earnings management than that of non-family firms.	Table 4.8 Hypothesis supported
Proposition 3: *Family gains and family costs are greater in family firms under managerial ownership vis-à-vis other family firms, ceteris paribus.*	AAA	***Hypothesis 1b:*** Family firms under managerial ownership have greater *family gains* from lower earnings management than other family firms.	Table 4.9 Hypothesis supported
Proposition 2: *Family firms have greater divergence in firm objectives; hence attain family costs vis-à-vis non-family firms, ceteris paribus.*	Industry vs. D/A Var.	***Hypothesis 2a:*** Family firms positively influence *family costs* from higher capital structure variation than that of non-family firms.	Table 4.11 Hypothesis supported
	Market vs. D/A Var.		Table 4.11 Hypothesis supported
Proposition 3: *Family gains and family costs are greater in family firms under managerial ownership vis-à-vis other family firms, ceteris paribus.*	Industry vs. D/A Var.	***Hypothesis 2b:*** Family firms under managerial ownership positively influence *family costs* from higher capital structure variation than that of other family firms.	Table 4.12 Hypothesis supported
	Market vs. D/A Var.		Table 4.12 Hypothesis supported
Proposition 4: *The trade-off between the family gains and family costs of a family firm results in competitive advantages or disadvantages against rival firms, ceteris paribus.*	Tobin's *Q*	***Hypothesis 3a:*** Family firms have higher performance measures than non-family firms, consistent with the outcome of Hypotheses 1a and 2a.	Table 4.13 Hypothesis supported
	ROA		Table 4.13 Hypothesis supported
Proposition 5: *Sustained competitive advantages from the trade-off between family gains and family costs diminish as family ownership and/or family management in the firm decrease.*	Tobin's *Q*	***Hypothesis 3b:*** Family firms under managerial ownership have higher performance measures than other forms of family firms, consistent with the results of Hypotheses 1b and 2b.	Table 4.14 Hypothesis supported
	ROA		Table 4.14 Hypothesis supported

5.3 Limitations and Opportunities for Future Research

As with any academic undertaking, this research potentially contains limitations that must be recognized. This section discusses these potential limitations as relating to either internal validity or external validity (Iselin, 1988; Campbell & Stanley, 1963). Furthermore, the issue of reliability is briefly discussed. Finally, it is noted that the limitations discussed below may provide future research opportunities for academics and students interested in the topic.

5.3.1 Internal Validity

Internal validity refers to the certainty with which conclusions about the causal relationship between different variables can be drawn from the research (Iselin, 1988; Campbell & Stanley, 1963). Specifically, the research seeks to identify the causal relationship between various dependent variables (information asymmetry, non-economic objectives and firm performance) and independent variables (family firms and owner-manager led family firms). Control variables are included to ensure that extraneous factors do not moderate the causal relationships established in experimental testing. The following threats to internal validity are highlighted.

5.3.1.1 Selection Bias

This research endeavored to use all available ex-post facto data to reduce the potential effects of selection bias on the internal validity of the results. However, limitations on available data and restrictions on accrual testing constrain the temporal scope of the study to within the contemporaneous financial year of 2006. As a future research opportunity, this study may be expanded to observe whether or not these conclusions, on publicly listed Australian firms, hold true through past and future periods.

The issue of selection bias is also salient in the discussion of firm performance. As discussed in Section 2.4.7, this study assumes a mean-reversion of agency trade-offs (ie. in the long run, it is posited that family firms which have negative agency trade-offs would have to either close down or adopt measures to transform them into non-family firms). This mean-reversion implies that family firms with negative trade-offs are removed from the sample, hence it implicitly acknowledges that the threat of selection bias may affect the internal validity of this study's results. Hence, it is possible that these conclusions do not actually suggest that family firms outperform non-family firms, but rather successful, long-lasting family firms have managed to maximize their *family gains* to compensate for *family costs*. As such, this research encourages further studies on ways to identify and maximize these *family gains* and minimize *family costs*.

Finally, the issue of selection bias is important in the adoption of this thesis' definition of what constitutes a family firm. Miller, Le Breton-Miller, Lester and Cannella (2007) argue that findings from earlier family business studies are extremely sensitive to the way in which family businesses are defined. Thus, it is possible that in the future, when a consensus for empirically defining family firms is better established within the research community, this study may be refined even further.

5.3.1.2 Mortality Effects

As discussed in Section 4.2.1, 87 firms were disqualified from the sample pool. Among these, 25 samples were eliminated since their data was either incomplete or they were identified outliers in subsequent statistical testing[9]. These eliminated samples represent only a minute (1.7%) faction of the sample pool. Thus, it is not expected that

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[9] Another sixty-two (62) sample firms were removed since these trusts and funds which, as discussed in Section 4.2.1, were inconsistent with the research objectives.

these omitted data will materially affect the statistical results of the study. Nevertheless, the mere removal and subsequent absence of the data indicates that it is not possible to fully discount mortality effects on the internal validity of the study.

5.3.1.3 Instrumentation and Statistical Effects

The effectiveness of instruments and statistical techniques utilized in testing may have major implications with the internal validity of the results. Based on the results of Section 4.6, no significant deleterious statistical effect has been detected. Moreover, from the simultaneous use of two alternate statistical packages as discussed in Section 5.3.3, it is expected that instrumentation effects are minimal.

Within the context of this research, the utilization of cross-sectional linear regression study raises the issue of endogeneity bias. Nevertheless, the utilization of non-parametric testing and the consistency of this research's results with that of other empirical findings in extant literature helps diminish support the conclusions derived from the linear regression analyses. In the future, researchers may further explore the relationships outlined within this thesis by utilizing of time-series analysis and, for the study of firm performance, path analytical techniques.

5.3.1.4 Moderating Effects

Section 3.4.5 outlines the control variables utilized to extricate potential moderating effects from the empirical research. Firm lifecycle, scale, industry and tangibility effects are accounted for in the research. Moreover, the study into capital structure variation takes into account the moderating effects of operating risk, tax shields, tax rates and profitability.

It is important to note that this study in owner-manager led family firms do not account for the effects of family lifecycles. This study's data indicate that a majority (approximately 85%) of owner-manager led family firms in the sample are first generation family firms. Existing research suggests that family lifecycles may have a moderating effect on family firm performance (Moores & Mula, 2000; Villalonga & Amit, 2006; Blanco-Magazatos, De Quevedo-Puente & Castrillo, 2007). This effect may intersect with the effect observed from managerial ownership. Unfortunately, the sample pool from this research does not contain sufficient observations to warrant statistical testing. Thus, a suitable opportunity for future research is to determine whether family lifecycles have a moderating effect among publicly-listed owner-managed family firms in Australia.

5.3.2 External Validity

External validity refers to the extent with which findings from the research can be used to infer causal relationships across alternative types of independent and/or dependent variables, and across alternative or broader settings and populations (Iselin, 1988; Campbell & Stanley, 1963). While care has been made to maximize available data, the representativeness of the sample period and sample selection procedure undertaken in Section 3.3 reduces the external validity of the study.

This study focuses on contemporaneous data on publicly-listed Australian firms. It is interesting to study whether similar results and conclusions can be observed from (1) private firms within Australia and/or (2) private and public firms outside Australia. Further, question on the consistency of this study's findings across alternative populations may be enhanced by studying them across different time periods. These

limitations on the temporal and physical scope of the study present an opportunity for future research. Nevertheless, the consistency of this study's results with past research into family firm performance suggests that this study, or at the very least, the results on family firm performance, has a high degree of generalizability.

Further, this study is conducted with the assumption that family businesses are restricted to the definition as outlined in Section 1.4.1. It may be possible that in rare cases, there are non-family firms that exhibit characteristics that may mimic *family gains* and *family costs*. In the event such occurs, the external validity of this dissertation's findings must be re-evaluated. Further research, in order refine the implications of this study, may be warranted.

This research also face limitations in translating the *family gains* and *family costs* constructs in practical terms. As indicated by the sample data, the idiosyncratic nature of *family gains* and *family costs* among various family firms suggests that these constructs may represent gestalts of differing family-driven resources and competencies. As Chrisman, Chua and Steier (2006) states, "paradoxically, some family firms do well, and some family firms don't." The topic of identifying what specific resources influences or is comprised within which agency construct gestalt is a broader question not addressed within this research. For instance, the way in which family firms' entrepreneurial orientation, organizational learning, tacit knowledge, informal governance, and patient capital, among others, influence *family gains* and *family gains*, which in turn, serve as catalysts for superior performance, represent exciting research opportunities for the future.

5.3.3 Reliability

Reliability refers to the consistency of empirical data and measures undertaken within the context of the research method. This study assumes that data gathered from Huntley-Aspect and Osiris databases are reliable. On some measures which are co-reported, cross-checking of the output from both databases did not reveal any reliability issues. Moreover, this study uses two statistical packages, SPSS version 13.0 and E-Views version 5.0, simultaneously to ensure the reliability of measurement results. Generally, the results between these two statistical packages are consistent and reliable.

5.4 Contributions and Implications of the Research

Despite the limitations outlined above, this study contributes to the current literature on the role of agency relationships in family businesses. Specifically, this research provides a unique contribution in several ways:

- The study provides a platform of unifying conflicting literature in family business agency theory by identifying *family gains* and *family costs* as separate yet interacting agency dynamics.

- The study into the idiosyncratic nature of the trade-offs between *family gains* and *family costs* represent an opportunity to bridge the agency theory framework and the resource-based view in family firms.

- The study shows that the degree of family involvement, represented by the presence of managerial ownership, materially affects *family gains* and *family costs*.

- The research pioneers the use of earnings management as a tool to measure information asymmetry within family firms and within owner-manager led family firms.

- The research pioneers the use of capital structure variation as a proxy to operationalize the influence of non-economic objectives within family firms and within owner-manager led family firms.

- The thesis is the first to show that family firms outperform non-family firms, in conjuction with lower information asymmetries, and spite of the presence of non-economic objectives.

- The study provides a contemporary verification that large, publicly-traded Australian family firms, consistent with findings from other countries, outperform their non-family counterparts.

Subsequently, this study's implications to researchers, educators, regulators, practitioners and investors are outlined as follows:

5.4.1 Research Implications

Generally, this research provides a better understanding of the agency relationships within family firms and owner-manager led family firms. By providing an empirical link between agency theory and resource-based framework in family business studies, and by reconciling the conflicting schools of thought in family business agency theory, this research updates extant literature and establishes new ground for future research. Moreover, by highlighting the effects of managerial ownership within family firms, this study provides a bridge for researchers in the field of managerial ownership and researchers in the field of family business to compare notes and share their respective

wealth of literature. In addition, this research extends the external validity of existing family business studies to include publicly-listed Australian family firms. Finally, the discussion of results and limitations provide new opportunities and topics for future research.

5.4.2 Educational Implications

As this thesis provides a deeper understanding of the role of agency relationships within family firms, such refinements may be incorporated within family business texts. Moreover, this study provides new information that may fuel classroom discussion and case studies on family business topics that may range from agency theory, resource-based view, firm performance, information asymmetry, firm objectives, managerial ownership and family involvement, among others. Further, students may, in the future, use this research as a guide for replication studies and observe its external validity.

5.4.3 Practical Implications

This research suggests that family firms should ideally maximize their advantages from lower information asymmetries and minimize their disadvantages from diverging corporate and family interests. Thus, this study provides a blueprint for family firms to maximize their potential and avoid detrimental pitfalls.

Likewise, non-family firms may use this knowledge to attempt to emulate the practices and characteristics of family firms that allow them to enjoy lower information asymmetries. Moreover, non-family firms may formulate strategies that enable them to take advantage of the weaknesses, represented by diverging corporate and family interests, within family firms.

Finally, the study of *family gains* and *family costs* provides an additional tool for investors to analyze the performance implications of governance and management decisions among family and non-family firms. Thus, results from this study may enhance investors' ability to make correct investment decisions and judgments.

5.4.4 Regulatory Implications

This study uses Australian Stock Exchange data, hence contains salient information that may be helpful for Australian regulators and authorities within the corporate arena. Moreover, as discussed in Section 1.3.3, Current Australian regulations discourage managerial ownership among publicly-listed firms (Colliers, 2002). Selection bias notwithstanding, this study's results indicate that managerial ownership, particularly for family firms, may in fact be beneficial in certain conditions. Therefore, this research may provide the onus for future regulatory changes that provide for the beneficial nature of managerial ownership in family firms.

5.5 Chapter Summary

This chapter presents a summary of the motivations, objectives, propositions, empirical findings and conclusions of the study. Furthermore, the limitations pertaining to internal validity, external validity and reliability of the findings were discussed. Finally, the contributions and implications of the research for practitioners, regulators, researchers and educators were highlighted.

This research specifically addresses the following questions as summarized in Section 5.2:

What are the unique agency dynamics that differentiate family firms from non-family firm?

Family firms exhibit personalistic and particularistic behaviors that differentiate them from non-family firms. These behaviors influence agency dynamics such that on one hand, information asymmetries are lower, and on the other hand, non-economic objectives are more prominent, within family firms vis-à-vis non-family firms. Consequently, the unique agency cost-savings (termed as *family gains*) and agency costs (termed as *family costs*) arising from these agency dynamics differentiate family firms from non-family firms.

How do these dynamics affect firm performance between family and non-family firms?

In highly competitive environments, a negative net trade-off between *family gains* and *family costs* cannot be sustained indefinitely. If firms with net negative trade-offs are unable to eliminate this disadvantage within a family business context, market competition dictates that they must either close down or mutate into firms that more closely resemble non-family firms. This implies that surviving family firms manage to maintain a positive net trade-off between *family gains* and *family costs*. These net positive trade-offs represent resources that sustain competitive advantages within family firms. Thus, as the results suggest, and consistent with other extant literature, family firms tend to outperform non-family firms.

How does managerial ownership moderate this relationship?

The degree of family involvement varies from one family firm to another. This gives rise to differing levels of personalism and particularism, and hence, idiosyncratic levels of *family gains* and *family costs*, amongst family firms. Generally, the more the dominant family coalition undertakes major roles within the business, the more involved and influential they become. Thus, the presence of managerial ownership within a family

firm may indicate high degrees of family involvement. The empirical results suggest that managerial ownership, representative of a greater degree of family involvement, results in lower information asymmetries (hence, greater *family gains*) and greater presence of non-economic objectives (hence, greater *family costs*). Moreover, this study's findings indicate that the trade-off from these agency dynamics result in an overall net gain.

Section 5.3 suggests that limitations may persist within the study, specifically with issues regarding selection bias, mortality of data, omitted variables and external validity. Despite these issues, Section 5.4 suggests that the study provides salient contributions to the field of family business research and present significant implications for practitioners, educators, researchers and regulators.

Overall, the conceptual framework posited within this thesis is based upon the foundation of extant literature and current wisdom within the family business sphere. The empirical results delivered by this thesis are reinforced within a multi-method approach, as illustrated within Chapter 3 and Appendix 3. Coming full circle, the empirical results from multi-method testing are shown to be consistent with empirical results and conceptual propositions from extant family business literature. It is hoped that this dissertation provides some answers to key questions within the family business literature and provides incremental growth of knowledge in the academic field.

Appendices

Appendix 1. Two-period Consumption Model for the Non-family Firm

For a non-family firm, the two-period utility maximization model is given as (James, 1999):

Given: $U(C_1,C_2)$ utility function for consumption (C) in period 1 (now) and 2

(future);

W   wealth;

K   investment in firm;

W-K   consumption;

F(K)   return on investment;

(1+d)   subjective discount factor;

(1+r)   market discount factor;

u_1/u_2 slope of owner's preference to consume now and in the

future.

Under normal circumstances, the owner's utility function is modeled as:

$$U(C1,C2) = u(C1) + \frac{u(C2)}{(1+d)} \qquad \text{(equation 1.1)}$$

This equation is maximized subject to a budget constraint:

$$C1 + \frac{C2}{(1+r)} = W - K + \frac{F(K)}{(1+r)} \qquad \text{(equation 1.1a)}$$

Taking the Lagrangian process for the choice variables:

$$\frac{(C_1,C_2,K)}{\ell} = u(C1) + \frac{u(C2)}{(1+d)} - \lambda\left(C1 + \frac{C2}{(1+r)} - W + K - \frac{F(K)}{(1+r)}\right) \text{(equation 1.2)}$$

Taking first order conditions $\dfrac{\partial \ell}{\partial C_1}$

$$\frac{\partial \ell}{\partial C_1} = u_1 - \lambda = 0$$

$$u_1 = \lambda \qquad\qquad\qquad \text{(equation 1.2a)}$$

Taking first order conditions $\dfrac{\partial \ell}{\partial C_2}$

$$\frac{\partial \ell}{\partial C_2} = \frac{u_2}{(1+d)} - \lambda\left(\frac{1}{(1+r)}\right) = 0$$

$$\frac{u_2}{(1+d)} = \lambda\left(\frac{1}{(1+r)}\right)$$

$$\lambda = \left(\frac{u_2(1+r)}{(1+d)}\right) \qquad\qquad \text{(equation 1.2b)}$$

Taking first order conditions $\dfrac{\partial \ell}{\partial K}$

$$\frac{\partial \ell}{\partial K} = -\lambda\left(1 - \frac{F_k}{(1+r)}\right) = 0$$

$$F_k = (1+r) \qquad\qquad\qquad \text{(equation 1.2c)}$$

Combining the terms in the investment equations (equation 1.2a), (equation 1.2b) and (equation 1.2c):

$$u_1 = \left(\frac{u_2(1+r)}{(1+d)}\right)$$

$$(1+r) = \frac{u_1}{u_2}(1+d)$$

Results in:

$$F_k = \frac{u_1}{u_2}(1+d) \qquad\qquad \text{(equation 1.3)}$$

Note that when d=0, the manager does not prefer to consume today or in the future:

$$F_k = \frac{u_1}{u_2} = (1+r) \qquad\qquad \text{(equation 1.4)}$$

Equation 1.4 illustrates that investment is optimal relative to the market investment rule. Therefore, the optimal choice in consumption between both periods (C_1 and C_2) maximizes both utility and firm profits together. Under perfect capital markets, Fisher's (1930) separation theory suggest that consumption decisions are separate from the investment maximization decisions, since owners can borrow from capital markets to fund their consumption preferences.

Appendix 2. Bootstrapping Results

Section 4.6.4 details the utilization of the bootstrapping technique (Efron, 1981) to test the robustness of the research method under conditions of non-Normality. A simulated distribution function for each research equation was generated using Monte Carlo simulation (Metropolis & Ulam, 1949). The following sample results are based upon one-thousand (1,000) replications of the bootstrapping process. In general, all regression results, post-bootstrapping simulation, appear to be consistent with earlier empirical findings. As such this robustness test reveals no inherent statistical problems with the conclusions derived from the research method. The sample results are summarized as follows:

A.2.1 Testing for Earnings Management

Table A2.1 presents the simulated results for Regression 1a and Regression 1b.

These are consistent with the results reported in Section 4.3.

Table A2.1 Results of Regression 1

Dependent Variable : Earnings Management Test Distribution via Monte-Carlo Simulation				
	Regression 1a: Family Firms		*Regression 1b: O-M Family Firms*	
	Coefficient	T-Statistic	Coefficient	T-Statistic
Intercept	0.62701	3.421815***	0.987548	5.383211***
Family	**-0.080531**	**-2.18478****		
Family * Governance			**-0.121468**	**-2.898900****
Age	0.005559	0.377002	0.024798	1.681381*
Size	-0.035933	-5.27036***	-0.050063	-7.334801***
Tangibility	0.021958	0.323279	-0.054986	-0.809350
Industry *Consumer*	0.188642	1.295579	0.092374	0.634636
Industry *Staples*	0.075666	0.481505	0.065905	0.419336
Industry *Energy*	0.404602	2.777748***	0.240329	1.649484*
Industry *Financials*	0.266812	1.848235*	0.084271	0.583661
Industry *Health*	0.140624	0.961481	0.013827	0.094513
Industry *Industrial*	0.11198	0.775405	-0.062784	-0.434681
Industry *Technology*	0.476958	3.205601***	0.249286	1.675039*
Industry *Materials*	0.188672	1.330858	0.051279	0.361599
Industry *Communications*	0.200787	1.194258	-0.019182	-0.114025
Adjusted R^2	7.7291%		8.0222%	

A.2.2 Testing for Capital Structure Variation

Tables A2.2 (Varida) and A2.3 (Varmda) present the simulated results for Regression 2a and Regression 2b. These are consistent with the results reported in Section 4.4.

Table A2.2 Results of Regression 2 (Varida)

Dependent Variable : Capital Structure Variation (Industry vs. Debt-to-Assets) Test Distribution via Monte-Carlo Simulation				
	Regression 2a: Family Firms		*Regression 2b: O-M Family Firms*	
	Coefficient	T-Statistic	Coefficient	T-Statistic
Intercept	0.639162	1.939254[*]	0.436221	1.320705
Family	**0.116334**	**1.755855[*]**		
Family * Governance			**0.147461**	**1.957223[*]**
Age	-0.003829	-0.144405	0.018686	0.703681
Size	-0.029178	-2.379835[**]	-0.023650	-1.924862[*]
Tangibility	0.099502	0.814960	0.093543	0.765185
Operating Risk	-0.013261	-0.351610	-0.049786	-1.318814
Profitability	-1.04E-06	-0.060710	9.46E-07	0.055153
Effective Tax Rate	-0.024584	-0.557910	0.001237	0.028040
Non-Debt Tax Shield	-3.43E-05	-0.181387	-1.30E-05	-0.068407
Industry *Consumer*	-0.072815	-0.278477	0.005009	0.019144
Industry *Staples*	-0.062957	-0.222960	-0.031668	-0.112018
Industry *Energy*	-0.157097	-0.600306	-0.096785	-0.369352
Industry *Financials*	-0.061715	-0.238035	-0.023254	-0.089586
Industry *Health*	-0.154250	-0.586965	-0.076139	-0.289366
Industry *Industrial*	-0.161969	-0.624607	-0.080772	-0.311111
Industry *Technology*	0.126667	0.474103	0.228647	0.854709
Industry *Materials*	-0.064452	-0.253161	-0.028639	-0.112337
Industry *Communications*	-0.161947	-0.536411	-0.061272	-0.202617
Adjusted R^2	0.2991%		0.4326%	

Table A2.3 Results of Regression 2 (Varmda)

Dependent Variable : Capital Structure Variation (Market vs. Debt-to-Assets) Test Distribution via Monte-Carlo Simulation				
	Regression 2a: Family Firms		*Regression 2b: O-M Family Firms*	
	Coefficient	T-Statistic	Coefficient	T-Statistic
Intercept	0.349496	1.053127	0.190723	0.575214
Family	**0.265376**	**3.977924**[***]		
Family * Governance			**0.390509**	**5.163229**[***]
Age	-0.008111	-0.303764	0.003135	0.117617
Size	-0.014591	-1.181949	-0.004807	-0.389760
Tangibility	0.062610	0.509284	0.053427	0.435351
Operating Risk	-0.037237	-0.980539	-0.089245	-2.354975
Profitability	-1.43E-05	-0.831199	4.09E-06	0.237445
Effective Tax Rate	-0.017572	-0.396041	-0.011220	-0.253331
Non-Debt Tax Shield	-0.000130	-0.683967	1.32E-05	0.069217
Industry *Consumer*	-0.070837	-0.269056	-0.146649	-0.558289
Industry *Staples*	-0.013418	-0.047193	-0.018147	-0.063946
Industry *Energy*	-0.142506	-0.540819	-0.130275	-0.495246
Industry *Financials*	0.125448	0.480541	0.077634	0.297931
Industry *Health*	-0.141044	-0.533039	-0.078863	-0.298569
Industry *Industrial*	-0.100639	-0.385438	-0.136487	-0.523690
Industry *Technology*	0.213121	0.792227	0.163374	0.608361
Industry *Materials*	-0.096260	-0.375509	-0.130976	-0.511789
Industry *Communications*	-0.155254	-0.510720	-0.250160	-0.824062
Adjusted R^2	1.6693%		2.4183%	

A.2.3 Testing for Firm Performance

Tables A2.4 (Q) and A2.5 (ROA) present the simulated results for Regression 3a

and Regression 3b. These are consistent with the results reported in Section 4.5.

Table A2.4 Results of Regression 3 (Q)

Dependent Variable : Firm Performance (Approximate *Tobin's* Q) Test Distribution via Monte-Carlo Simulation				
	Regression 3a: Family Firms		*Regression 3b: O-M Family Firms*	
	Coefficient	T-Statistic	Coefficient	T-Statistic
Intercept	3.633427	5.921470***	4.894121	7.984615***
Family	**0.294414**	**2.385248****		
Family * Governance			**0.437283**	**3.123425****
Age	0.088075	1.783871*	-0.041298	-0.838057
Size	-0.136408	-5.974685***	-0.150669	-6.606766***
Tangibility	0.211298	0.928998	0.073624	0.324343
Industry *Consumer*	0.279899	0.574063	-0.461274	-0.948489
Industry *Staples*	-0.195795	-0.372077	-0.787612	-1.499868
Industry *Energy*	0.542138	1.111490	0.014857	0.030518
Industry *Financials*	0.170595	0.352898	-0.354966	-0.735810
Industry *Health*	1.161387	2.371312**	0.432255	0.884333
Industry *Industrial*	0.622418	1.287067	0.083605	0.173241
Industry *Technology*	0.330738	0.663812	-0.101835	-0.204796
Industry *Materials*	0.787176	1.658163*	-0.035984	-0.075943
Industry *Communications*	1.167408	2.073560**	0.260384	0.463253
Adjusted R^2	8.6412%		8.946%	

Table A2.5 Results of Regression 3 (ROA)

Dependent Variable : Firm Performance (Return on Assets) **Test Distribution via Monte-Carlo Simulation**				
	Regression 3a: Family Firms		*Regression 3b: O-M Family Firms*	
	Coefficient	T-Statistic	Coefficient	T-Statistic
Intercept	-1.926226	-9.384416***	-1.878455	-9.119594***
Family	**0.082984**	**2.009815****		
Family * Governance			**0.120495**	**2.561147****
Age	-0.039743	-2.406320	0.001729	0.104411
Size	0.105392	13.79970***	0.102990	13.43858***
Tangibility	-0.040148	-0.527674	-0.112036	-1.468718
Industry *Consumer*	0.099085	0.607509	-0.053867	-0.329603
Industry *Staples*	-0.301811	-1.714558*	-0.101772	-0.576721
Industry *Energy*	0.027720	0.169892	0.010822	0.066150
Industry *Financials*	0.099734	0.616759	-0.122638	-0.756481
Industry *Health*	-0.229167	-1.398783	-0.347133	-2.113333**
Industry *Industrial*	0.133323	0.824157	-0.031223	-0.192528
Industry *Technology*	-0.084025	-0.504148	-0.206429	-1.235347
Industry *Materials*	0.026688	0.168060	-0.029443	-0.184912
Industry *Communications*	-0.005922	-0.031444	-0.105722	-0.559715
Adjusted R^2	20.224%		17.89%	

Appendix 3. CEO Compensation Study using Non-Parametric Design

Empirical results from this thesis reveal that the agency dynamics of (1) *family gains* from lower information asymmetry, and (2) *family costs* from diverging firm objectives, differentiate family firms from non-family firms, and owner-managed family firms from other family firms. While it is difficult to individually measure *family gains* and *family costs* idiosyncratic within each firm in the sample, Appendix 3 extends the breadth and scope of this study by focusing on a particular aspect of agency cost-saving - CEO compensation. CEO compensation contracts are important governance mechanisms that alleviate or reduce agency problems within companies (Ali & Chen, 2006). Given that family firms have lower levels of information asymmetry, and since CEOs within family firms have greater incentive to pursue non-economic objectives favourable to their own, it is logical to infer that family firms should provide lower CEO compensation than non-family firms (Gomez-Mejia, Larraza-Kintana & Makri, 2003). Likewise, the same agency mechanism exists between owner-managed family firms and non-owner-managed family firms. Thus, it can be inferred that owner-managed family firms would provide lower CEO compensation than non-owner-managed family firms.

Carney's (2005) view of parsimony as a driver of competitive advantage within family firms is conceptually compatible with the notion of family firms providing lower executive compensations than their non-family counterparts. Carney (2005) suggests that parsimony is dependent on the dominant family group's ability to influence strategic decision-making within the family firm. This study implies that this ability to influence strategic decision-making is affected by the presence of *family gains* and *family costs*, brought about by personalism and particularism (Carney, 2005) within the firm. This is

consistent with the findings of Gomez-Mejia, Larraza-Kintana and Makri (2003) and Ali and Chen (2006), among others. While the earlier empirical findings outlined in this dissertation provides the fundamental groundwork that links to the concept of agency dynamics within family firms, this empirical study on relative CEO compensation structures amongst our sample provides a practical picture of the difference between family firms vis-à-vis non-family firms, and owner-managed family firms vis-à-vis non-owner-managed family firms. Hence, this section seeks to provide a practical link between the study's earlier empirical findings that imply the presence of Carney's (2005) notion of personalism and particularism within family firms, with that of Carney's (2005) concept of parsimony within family firms.

Furthermore, this section utilizes an alternative data collection and statistical testing method so that empirical results from this section's study may be compared against our earlier empirical findings. Jointly, this multi-method approach seeks to bolster the conclusions derived from the abovementioned earlier empirical results.

A3.1 Research Design

As discussed above, the following hypotheses can be inferred:

Hypothesis 4a: Family firms have lower CEO compensation than non-family firms.

Hypothesis 4b: Owner-managed family firms have lower CEO compensation than other family firms.

These hypotheses are tested using an alternative, univariate, non-parametric statistical technique, the Wilcoxon Sign-Ranked Test. This test was selected because:

- It is an acceptable alternative to parametric Student's t-tests (as used in regression analysis above) as means for empirical comparison (McConaughy, Matthews & Fialko, 2001);

- As means for empirical comparison, it sidesteps statistical issues of sphericity that may plague conventional parametric tests (McConaughy, Matthews & Fialko, 2001);

- It being a non-parametric test, provides a contrast to earlier parametric testing utilizing OLS regression analysis and present future studies and replications alternative ways of testing the thesis;

- If the results from this test are consistent with earlier regression analyses, the conclusions from this thesis are reinforced when the results from both tests are viewed collectively.

Subsequently, this study defines CEO compensation as:

$$CEO = Salary + Allow + NC + Super + DirCom + Option + Shares$$

Where:

CEO refers to CEO compensation for the 2006 financial year;

Salary refers to the CEO's salary for the 2006 financial year;

Allow refers to various cash allowances allocated to the CEO for the 2006 financial year;

NC refers to non-cash entitlements allocated to the CEO for the 2006 financial year;

Super refers to superannuation contributed to the CEO for the 2006 financial year;

DirCom refers to directors' and committee fees of the CEO for the 2006 financial year;

Option refers to the in-the-money value of options exercised by the CEO for the 2006 financial year;

Shares refer to the value of shares allocated to the CEO for the 2006 financial year.

To enhance the validity of this study, and to provide a link to this study's earlier regression analyses, the variables for earnings management (AAA), capital structure variation (Varida and Varmda), and firm performance (Q and ROA) are also tested using the Wilcoxon Sign-Ranked Test. The results are compared with earlier regression results (as discussed in Chapter 4) and checked for consistency.

A3.2 Sample Selection and Data Collection

Samples for comparison using the Wilcoxon Sign-Ranked Technique are obtained using a matched-sampling procedure on data from Australian Stock Exchange listed firms in 2006, as described in Section 3.3. Samples are matched in the particular order of (1) industry sector affiliation, (2) firm size, and (3) firm age. These variables, as described in Section 3.4, control for the moderating effects of industry affiliation, economies-of-scale, and firm life-cycle. While this sample selection procedure is subject to selection bias issues, it becomes less of a concern when the results of the non-parametric test are viewed concurrently with the results from the regression analyses.

As described in Section 3.3.3, data for earnings management (AAA), capital structure variation (Varida and Varmda), and firm performance (Q and ROA) are collected from Aspect/Huntley Financial Analysis and Data Analysis databases.

Moreover, CEO compensation data are collected from 2006 Annual Reports published in Aspect/Huntley Data Analysis and Annual Reports Online databases. Thirty-two (32) matched samples for family vs. non-family firm comparison, and thirty-two (32) matched samples for owner-manager vs. non-owner-manager family firm comparison were obtained.

A3.3 Results: Family vs. Non-Family Firms

The descriptive statistics and Wilcoxon Test Z-Scores for the 32 samples of family firms matched against a control set of 32 samples of non-family firms are presented in Table A3.1.

Table A3.1 Comparison between Family Firm vs. Non-Family Firm

Family			
	Mean	Median	S. Deviation
Size	17.95	17.54	
Age	2.50	2.67	
CEO	632,613.41	363,815.00	638,782.94
AAA	0.11	0.05	0.15
Varida	0.03	0.02	0.03
Varmda	0.03	0.02	0.03
Q	2.79	1.98	2.37
ROA	0.05	0.08	0.21
N	32		

Non-Family			
	Mean	Median	S. Deviation
Size	17.96	17.38	
Age	2.68	2.86	
CEO	1,272,199.53	621,166.50	1,445,625.31
AAA	0.30	0.23	0.28
Varida	0.02	0.01	0.03
Varmda	0.02	0.01	0.04
Q	2.05	1.84	1.20
ROA	(0.25)	0.01	0.53
N	32		

Difference (Family – Non-Family)			
	Mean	Median	Wilcoxon Z
CEO	(639,586.13)	(257,351.50)	(3.59)***
AAA	(0.20)	(0.17)	(4.00)***
Varida	0.01	0.01	1.98**
Varmda	0.01	0.01	2.65***
Q	0.74	0.14	1.68*
ROA	0.30	0.07	3.09***
N	32		

Legend : AAA – Earnings Management via Absolute-Value Abnormal Accruals; Varida – Industry Mean Debt-to-Asset Variation; Varrmda – Market Mean Debt-to-Asset Variation; Q – Approximate Tobin's *Q*; ROA – Return on Assets; Age – Logarithmic Firm Age; Size – Logarithmic Firm Asset Size; CEO – CEO compensation; * - Significant with 90% level of confidence; ** - Significant with 95% level of confidence ; *** - Significant with 99% level of confidence.

Table A3.1 shows that CEO compensation for family firms are lower than in non-family family firms within the matched samples, with an average difference of $639,586.13 and median difference of $257,351.50. Wilcoxon tests indicate that this difference is significant within a 99% level of confidence. This result provides support for Hypothesis 4a.

Moreover, the above table shows that earnings management (AAA) for family firms are lower than non-family family firms within the matched samples, with an average difference of 0.20 and median difference of 0.17. Wilcoxon tests indicate that this difference is significant within a 99% level of confidence. This result provides support for Hypothesis 1a and is consistent with the results of the regression analysis as described in Section 4.3.2.

Likewise, Table A.3.1 shows that capital structure variation for family firms are greater than non-family firms within the matched samples, with an average and median difference of 0.10, for both Varida and Varmda. Wilcoxon tests indicate that this difference is significant within a 95% level of confidence for Varida, and 99% level of confidence for Varmda. This finding provides support for Hypothesis 2a and is consistent with the results of the regression analysis as described in Section 4.4.2.

Finally, the above table shows that family firms have greater firm performance than non-family firms within the matched samples. The average difference for the matched samples is 0.74 for approximate Tobin's Q (Q) and 0.30 for return-on-assets (ROA). Further, the median difference for the matched samples is 0.14 for approximate Tobin's Q (Q) and 0.07 for return-on-assets (ROA). Wilcoxon tests indicate that this difference is significant within a 90% level of confidence for Q, and 99% level of

confidence for ROA. These results provide support for Hypothesis 3a and are consistent with the results of the regression analysis as described in Section 4.5.1.

A3.4 Results: Owner-Manager Family vs. Other Family Firms

Table A3.2 presents the descriptive statistics and Wilcoxon Test Z-Scores for the 32 samples of owner-managed family firms matched against a control set of 32 samples of non-owner-managed family firms.

Table A3.2 Comparison between OM Family Firm vs. Non-OM Firm

Owner-Managed Family			
	Mean	Median	S. Deviation
Size	17.38	17.30	
Age	2.48	2.60	
CEO	418,200.63	299,269.00	405,584.46
AAA	0.12	0.05	0.18
Varida	0.03	0.03	0.03
Varmda	0.03	0.02	0.03
Q	3.13	2.67	2.55
ROA	0.03	0.09	0.33
N	32		

Non-Owner-Managed Family			
	Mean	Median	S. Deviation
Size	17.99	17.53	
Age	2.64	2.77	
CEO	850,780.13	553,465.50	896,244.31
AAA	0.17	0.06	0.28
Varida	0.02	0.01	0.02
Varmda	0.02	0.02	0.02
Q	2.12	1.66	1.35
ROA	(0.01)	0.06	0.17
N	32		

Difference (OM Family – Non-OM Family)			
	Mean	Median	Wilcoxon Z
CEO	(432,579.50)	(254,196.50)	(3.55)***
AAA	(0.05)	(0.00)	(1.76)*
Varida	0.01	0.02	2.43**
Varmda	0.01	-	1.26
Q	1.02	1.01	2.00**
ROA	0.03	0.02	2.24**
N	32		

Legend : AAA – Earnings Management via Absolute-Value Abnormal Accruals; Varida – Industry Mean Debt-to-Asset Variation; Varrmda – Market Mean Debt-to-Asset Variation; Q – Approximate Tobin's *Q*; ROA – Return on Assets; Age – Logarithmic Firm Age; Size – Logarithmic Firm Asset Size; CEO – CEO compensation; * - Significant with 90% level of confidence; ** - Significant with 95% level of confidence ; *** - Significant with 99% level of confidence.

Table A3.2 shows that CEO compensation for owner-managed family firms are lower than other family firms within the matched samples, with an average difference of

$432,579.50 and median difference of $254,196.50. Wilcoxon tests indicate that this difference is significant within a 99% level of confidence. This result provides support for Hypothesis 4b.

Furthermore, the above table shows that earnings management (AAA) for owner-managed family firms are lower than other family firms within the matched samples, with an average difference of 0.05. Wilcoxon tests indicate that this difference is significant within a 90% level of confidence. This result provides support for Hypothesis 1b and is consistent with the results of the regression analysis as described in Section 4.3.3.

Likewise, Table A.3.2 shows that capital structure variation for owner-managed family firms are greater than other family firms within the matched sample group with an average difference of 0.10 for both Varida and Varmda. The median difference for the matched samples is 0.01 for Varida, while there is no median difference for Varmda. Wilcoxon tests indicate that this difference is significant within a 95% level of confidence for Varida. On the other hand, Wilcoxon tests indicate no significant difference for Varmda. These results provide a partial support for Hypothesis 2b. Further, results on the Wilcoxon test for Varida is consistent with the results of the regression analysis as described in Section 4.4.3.

Finally, the above table shows that owner-managed family firms have greater firm performance than other family firms within the matched samples. The average difference for the matched samples is 1.02 for approximate Tobin's Q (Q), and 0.03 for return-on-assets (ROA). Further, the median difference for the matched samples is 1.01 for approximate Tobin's Q (Q) and 0.02 for return-on-assets (ROA). Wilcoxon tests indicate that this difference is significant within a 95% level of confidence for both Q and ROA.

These results provide support for Hypothesis 3b and are consistent with the results of the regression analysis as described in Section 4.5.2.

A3.5 Discussion

Results of the Wilcoxon Sign-Ranked Tests on CEO compensation among the matched samples indicate that family firms have significantly lower CEO compensation than non-family firms with an average of $632,613.41 as against to $1,272,199.53 respectively. Moreover, empirical testing on the matched samples revealed that family firms under managerial ownership had significantly lower CEO compensation than other types of family firms, with an average of $418,200.63 as against to $850,780.13 respectively. These results suggest that family firms have considerable agency cost-savings in terms of lower contractual operating costs (thus, have *family gains*) when compared against non-family firms. Concurrently, these results suggest that owner-managed family firms have considerable agency-cost savings, hence greater *family gains*, than other forms of family firms.

Meanwhile, when viewed under the assumption that the market for managerial talent is highly competitive (Fama, 1980), such a significant shift in CEO compensation structure among the test groups implies that family firm CEOs (vis-à-vis non-family firm CEOs) and owner-managers of family firms (vis-à-vis non-OM CEOs of family firms) must make up the difference in their compensation packages through other non-financial means within the company. Ironically, the literature review in Chapter Two suggests that personalism and particularism enables family managers to achieve these non-economic incentives much more readily than their non-family counterparts (Morck & Yeung, 2003; Gomez-Mejia, Nunez-Nickel & Guttierez, 2001; Schulze, Lubatkin, Dino & Buchholtz,

2001; Schulze, Lubatkin & Dino, 2003; Carney, 2005). Consequently, this implies that family firms may have a greater divergence in firm objectives, hence leading to greater *family costs*, than non-family firms. Further, the findings imply that owner-manager led family firms have a greater divergence in firm objectives, hence leading to greater *family costs*, than other forms of family firms.

It is necessary to note that the Wilcoxon Sign Ranked Test does not establish a causal arrow between family firms (and O-M family firms) with lower CEO compensation (McConaughy, Matthews & Fialko, 2001). Nevertheless, this test distinctly illustrates that the possibility of a causal relationship highly exists. Moreover, the above findings are consistent with the thesis' propositions, which suggest that (1) family firms have unique *family gains* and *family costs* that differentiate them from non-family firms, and (2) owner-manager led family firms have greater *family gains* and *family costs* than other forms of family firms. In fact, these results are consistent with empirical findings of extant literature in family business (Gomez-Mejia, Larraza-Kintana & Makri, 2003; Ali & Chen, 2006). More importantly, results on the supplementary Wilcoxon tests comparing earnings management (AAA), capital structure variation (Varida and Varmda) and firm performance (Q and ROA) among family vs. non-family firms and owner-managed vs. non-owner-managed family firms, are all consistent with the results of earlier regression analyses. Specifically, the above tests show that family firms have significantly lower earnings management (hence, lower information asymmetries), significantly greater capital structure variation (hence, greater divergence in firm objectives) and significantly greater performance, than their non-family counterparts. Similarly, family firms under managerial ownership have significantly lower earnings

management (hence, lower information asymmetries), significantly greater capital structure variation (hence, greater divergence in firm objectives) and significantly greater performance, than other family firms. Thus, when viewed collectively, the results of these tests strengthen the findings and conclusions of the thesis.

Finally, not only does this appendix show, through illustrative measures, the robustness of the previous tests within this research, it also highlights the presence of parsimony (Carney, 2005) within family firms. Parsimony manifests itself, in this case, as cost-savings arising from the lower CEO compensation costs among family firms vis-à-vis non-family firms, and among owner-manager led family firms vis-à-vis other family firms.

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