Family Ownership and the Value-relevance of Earnings and Book Value

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Abstract
This study investigates the relation between family ownership and the value-relevance of two primary accounting measures, earnings and book value. We provide theories of the effect of family ownership on the value-relevance of earnings and book value. We contend that current accounting technology does not fully recognise the family firm factors in the earnings or book value of the firm. We find that the value-relevance of earnings and is higher for family firms. We attribute this to the long-term orientation and the higher quality earnings of these firms. In contrast, the value-relevance of book value is lower. We believe this is due to the fact that family firms possess more social and human capital than non-family firms. As these intangible assets are not recognised in the balance sheet, the book value figure becomes of less relevance for family firms.

Keywords: Value-Relevance, Family Firms, Intangible Assets

1. Introduction

While the relevance of accounting information for valuation purposes is well established, the research in this domain is predicated on the agency relationship between owners and managers (Ayers, 1998; Barth, Beaver, & Landsman, 1998; Collins, Maydew, & Weiss, 1997; Dechow, Hutton, & Sloan, 1999; J. A. Ohlson & Penman, 1992).A specific type of ownership structure where the agency relationship is altered is family ownership. When a family is in control of a firm and is thus able to shape its strategic direction the firm is said to be a family firm, the principal and the agent often belong to the same family. Accepting the fact that accounting information is of vital importance in the valuation process the question thus becomes if the presence of family ownership has an impact on the accounting information and its relevance for the purpose of valuation? As both the U.S. Financial Accounting Standards Board (FASB) and the International Accounting Standards Board (IASB) acknowledge that one of the primary objectives of financial statements is to provide investors with information for decision-making, the value-relevance of accounting information is a critical issue. This paper investigates if the value-relevance of accounting information is impacted by the presence of family ownership. The notion that family ownership would have an impact upon the value-relevance of accounting information has been ignored in research, despite evidence that family ownership may impact the accounting profitability of a firm (Anderson and Reeb, 2003, Amit and Villalonga, 2006), and also the quality of the accounting information supplied (Wang, 2006, Prencipe and Bar-Yosef, 2011, Prencipe et al., 2008). Furthermore, research has established that managerial ownership is related to value-relevance of accounting information (Warfield et al., 1995, Gabrielsen et al., 2002). Combined, this evidence provides indication that the value-relevance may be impacted by family ownership, and thus provides the motivation for this paper.

2. Value-Relevance

The purpose of the value-relevance research is often said to determine if accounting information is used by investors in the valuation process. If accounting information is used in the valuation process then we would expect there to be a high association between the accounting information and the market value, thus deeming the information as relevant (Barth, Beaver, & Landsman, 2001). The relevance of accounting information value is well established (Ayers, 1998; Barth, Beaver et al., 1998; Collins et al., 1997; Dechow et al., 1999; J. A. Ohlson & Penman, 1992), more recent research has investigated the conditions of its relevance. Barth et al. (1998) found that the relevance of book value is dependent on the financial health of a firm. As the financial health deteriorates, the explanatory power of book value for market value increases. Conversely, the opposite effect is found for the earnings

figure, as the authors find a positive relationship between its explanatory power and financial health. The two effects highlight the different roles of the income statement and the balance sheet. Dechow et al. (1999) provide further support for this notion, finding that book value provide additional explanatory power over earnings. The importance and relevance of accounting book value has also been established over long time periods, with research finding that its explanation power for market values increasing over the past 40 years (Collins et al., 1997; Francis & Schipper, 1999). This assertion is however not shared by all, as a new stream of research contends that the opposite is in fact true.

Brown et al. (1999) found that the increase in relevance reported by in Collins et al. (1997) and Francis and Schipper (1999) can be explained by the increase in scale effect over time. When controlling for scale, Brown et al. (1999) find a decrease in relevance over time. Lev and Zarowin (1999) also document a deterioration of the relevance of accounting information over the past 20 years. Specifically they investigate the relevance of earnings, cash flows and accounting book value, and find consistent results across all three measures. The authors attribute the loss in relevance to the shortcomings of the accounting standards to account for intangible assets. The failure to do so has made financial information less accurate in the portrayal of the value of the firm, thus becoming of less relevance for decision- makers. This explanation is shared by others, who suggest that we have moved to a knowledge economy, where tangible assets are becoming less important and that the primary source of value stems from the intangible assets in the economy (Goldfinger, 1997). The inability to accurately account for intangible assets naturally impacts the relevance of accounting book value; however it also has an impact on the earnings figure. According to Stewart (1997) this has caused the earnings figure to become less value relevant as expenses associated with the creation of these intangible assets have been expensed rather than capitalized. Furthermore, several studies have shown that the market positively values capitalization of intangibles in comparison to immediate expensing (Aboody & Lev, 1998; Abrahams & Sidhu, 1998; Lev & Sougiannis, 1996).

Recently, the relationship between ownership and value-relevance of accounting information has become of interest to researchers. Warfield et al. (1995) investigated the impact of managerial ownership upon the information content of earnings using a U.S. sample. The authors found that the value-relevance of earnings is increased in the presence of managerial ownership. Gabrielsen et al. (2002) investigated the same issue among Danish firms; interestingly they found a negative relationship between managerial ownership and the information content of earnings. The contrast in results was attributed to the differences in institutional setting. The most recent study by Bae and Jeong (2007) was based on a South Korean sample, and focused on large business conglomerates that are often referred to as chaebols. This study is of particular interest as many of these chaebols are in fact controlled by families. In line with their hypothesis, the authors found that the value-relevance of accounting information was lower for these firms and attribute this loss in value-relevance to the lower quality of accounting information supplied by chaebols. However, even though these chaebols are often controlled by families, the particular institutional and cultural setting makes it hard to generalize these results to all family firms as a group.

3. Family Firms

The unique nature of the family firm has been explored through numerous theoretical lenses including agency theory, stewardship theory, and the resource-based view (hereafter RBV). These three theoretical lenses contribute several overlapping family firm factors that may impact the value-relevance of accounting information. To focus our analysis, we categorize these factors into two groups based on their nature. The first category is decision-making (hereafter DM) factors; these relate to the way that family firms are managed and the decision

processes that give rise to the distinctiveness of these firms. The second group is intangible asset (hereafter IA) factors. These are assets within the firm that are accumulated due to the nature of the family firm. We explore each of these categories of factors in turn.

3.1 Decision-making Factors

The interconnection between owners, managers, and employees gives rise to distinctive DM factors in family firms. These DM factors encompass decision processes in regard to strategy, governance, and capital. The first DM factor is long-term orientation (James, 1999). This factor is grounded in stewardship theory, which emerged as a prevailing concept in last the two decades (Davis, Schoorman, & Donaldson, 1997; Donaldson, 1990; Donaldson & Davis, 1991). Recently, it has been applied within the family business context (Arregle, Hitt, Sirmon, & Very, 2007; Gomez-Mejia, Haynes, Nunez-Nickel, Jacobson, & Moyano-Fuentes, 2007; Miller & Le Breton-Miller, 2005). According to stewardship theory, due to the interdependency of the family and its business, family members share a much stronger connection to the firm versus non-family owners. This connection between the family and its business leads to managerial practices that differ from non-family businesses. One of the primary manifestations is long-term orientation (James, 1999). The firm is managed with future generations in mind, often by CEOs whose job tenure greatly exceeds those of non-family firms (Beckhard & Dyer, 1983). A long-term orientation ensures future returns and also lowers the risk level of the firm. With a long-term orientation, the family firm is able to extend the time horizon of future earnings streams. Additionally, the decrease in myopic behaviour by management leads to a lower risk level for the firm.

The second DM factor is the governance structure of family firms. Research suggests that both agency problems and costs increase as managerial ownership decreases and the interests in a firm diverge (McConnell & Servaes, 1990; Morck, Shleifer, & Vishny, 1988). Family firm control mitigates the costs and problems that usually arise in the agency relationship between owners and managers (Anderson, Mansi, & Reeb, 2003; Demsetz & Lehn, 1985). In effect, the family provides an alternate corporate governance mechanism since there is less classical separation of ownership and control (Jensen, Meckling, Field, & Park, 1976) thus lowering the potential for owner manager agency conflict. However, where family control and management are high, there exists greater potential for the family to expropriate wealth from non-family owners and debt holders. In the latter case, the agency cost of descendent CEOs increases the cost of debt (Anderson et al., 2003) and is value destroying for other shareholders (Amit & Villalonga, 2006). In sum, the corporate governance factor potentially positively or negatively impacts both returns and risk depending on the nature of family ownership, management, and control of the firm.

The third DM factor is the patient capital of the family firm, which is identified as part of the RBV and the overarching ‘familiness’ phenomenon(Sirmon & Hitt, 2003). Patient financial capital refers to the nature of capital invested by the family in its own firm. As established earlier, family firms tend to have a range of nonfinancial goals that result in a long-run orientation. Consequently, the financial capital of the firm invested by the family itself is not under threat of liquidation or seeking immediate dividends (Dobrzynski, 1993). This results in a strategic advantage for the family firm since capital comes at a lower cost (at least in the short run) and higher flexibility, the firm is able to leverage these advantages to ensure long-run performance. This has implications for the required rate of return that needs to be factored into any valuation model, dividend levels and timing, and the sustainability of future returns.

The fourth DM factor is survivability capital, which comprises personal resource contributions of family members and is explored through the RBV framework (Sirmon & Hitt, 2003). In practice, this resource is exemplified by free or loaned labour, loans to the

business at below-market price, and additional equity investments(Haynes, Walker, Rowe, & Hong, 1999). This resource exists due to the emotional and financial bond that families have with their businesses. Survivability capital provides the firm with a safety net that can be used in tough economic times. Whilst non-family firms may have to let employees go in economic downturns and thus decrease productivity, family firms are able to use free or loaned labour to avoid productivity loss. This has implications for the cost of external capital as the inherent risk and probability of failure of the business is lowered by the family's survivability capital. Furthermore, the increase in survival rates also ensures the existence of future returns in the long run.

3.2 Intangible Asset Factors

We are now in a knowledge economy where intangible assets are the primary source of value, shifting from the traditional physical assets value dominance (Goldfinger, 1997). This development is highly relevant in the case of the family firm since we contend that the nature of the family firm leads to an accumulation of intangible assets and thus distinctive IA factors.

The first IA factor is the social capital of family firms. This factor is grounded in stewardship theory and the RBV. In line with the first factor, the family has a deep connection with its business (Astrachan & Jaskiewicz, 2008) and family social capital is often intertwined with that of the firm (Anderson et al., 2003); the permanence of the firm is equivalent to continuity of the family name. Therefore, it is suggested that family firms place greater importance on social-capital-generating activities than non-family firms. These include such elements as reputational development (Habbershon & Williams, 1999) and fostering relationships with the firm's customers and suppliers (Sirmon & Hitt, 2003). This notion is supported empirically by Miller et al. (2008), who found that family firms have more personalized marketing, spend more on reputational development, and focus on markets that are often neglected. These activities are linked to future economic gains in prior research. A favourable reputation has been shown to improve financial performance (Roberts & Dowling, 2002) while customer satisfaction has been shown to be a lead indicator of future performance (Ittner & Larcker, 1998). Additionally, it has also been shown that capital markets see social capital as an intangible asset (Barth, Clement, Foster, & Kasznik, 1998).

The second IA factor is human capital, primarily grounded in the RBV; however, it can also be explained through a stewardship theory lens. In essence, family firms are more likely to perform human capital-increasing activities to ensure longevity than non-family firms (Ward, 2004). Miller et al. (2008)showed that family firms invest in more human capital-related activities than non-family firms. These include investment in training, wider job roles, flexible arrangements for work, and longer employment of individual managers. Investment in human capital-related activities such as training has a positive impact on firm performance through productivity gains (Bartel, 1994). Furthermore, the human capital of the firm is often described as the most important intangible asset (Hand & Lev, 2003).

3.3 Family Firms and the Value-Relevance of Book Value of Equity

The unique nature of family firms impacts strategic objectives, which are manifested in the development and accumulation of unrecognised intangible assets that represent additional resources of the firm. These activities include establishing and maintaining a favourable reputation (Habbershon & Williams, 1999), nurturing relationships with customers and suppliers (Sirmon & Hitt, 2003), and investing in human capital (Ward, 2004). Social capital with customers and suppliers and human capital of the family and other staff members are significant intangible assets of the family firm. The wealth exposure of the family provides a long run incentive to build and preserve these intangible assets more so than for non-family

firms. In some contexts, the intangible assets of the family might be the most valuable asset the business possesses.

While these family firm-specific intangible assets are resources of the firm, they are not - or at least not fully - captured in the reported book value of a firm under current international accounting regulations. Accounting book value only measures tangible assets plus a limited set of intangible assets (i.e. purchased goodwill, licenses, and trademarks). The social and human capital intangible assets of family firms do not meet the definition of intangible assets under the current international accounting standards (Sanchez, Chaminade, & Olea, 2000). To recognize and measure in the accounts as an intangible asset, the resource or asset must: (1) be under the control of the firm and the firm has to be able to obtain the benefits of owning the asset, (2) embody future economic benefits associated with the control of the asset either in the form of increased revenue or decreased expenses, and (3) be identifiable (IAS 38).

The third test of identifiability is the critical stumbling block for family firm intangible assets. To consider an asset identifiable, the firm must be able to separate the asset from the firm. Separability in this respect means that the benefits of controlling the asset are capable of being transferred to a third party, for example, in the form of selling or renting the asset (Bond, Cummins, Eberly, & Shiller, 2000). If we consider the case of social capital and its reputation subcomponent, while there may be future economic benefits stemming from a positive reputation, the firm's reputation cannot be severed from the firm itself or the family members(Cañibano, Garcia-Ayuso, & Sánchez, 2000). This disqualifies reputation from being an intangible asset for accounting measurement. There is an argument that the reputation may not even be separable from the family or the firm it controls. Thus, for family firms where social and human intangible assets are likely to be significant value drivers, they will not be captured in book value; the accounting book value as a resource measure is mis-specified. While it is true that non-family firms possess unrecognized intangible assets (e.g. brand reputation), we expect that the level of asset or resource mis-specification for family firms is of greater magnitude than for non-family firms.

The question we need to consider is how intangible assets impact value and, in particular, how family firm intangibles differentially impact value. Accounting and finance research typically measure the resources of a firm as the financial statement value of net assets held or as the accounting book value (Cañibano et al., 2000). The family business literature has not addressed directly the valuation of resources. Nevertheless, the research has found that family firms are in most cases valued higher in the market than non-family firms, based on higher P/B as a proxy for Tobin's *q* values (Amit & Villalonga, 2006; Anderson & Reeb, 2003; Maury, 2006). However, if we accept the argument that family firms hold more unidentifiable intangible assets than non-family firms then their reported book values are relatively more understated compared to the true underlying but unobservable state. A consequence of this understatement of book value is that the Tobin's *q* proxy P/B is upwardly biased since the denominator in the ratio is the reported (understated) book value of assets. Thus, we observe inflated price-to-book and Tobin's *q* results unless the market uses an adjusted P/B multiplier to offset the bias in book value measurement for family firms.

The core argument that family firms have higher IA factors is supported by a body of literature that uses Tobin's *q* as a measure for resource intangibility (Sanchez et al., 2000; Villalonga, 2004). Industries such as information technology, where unidentified intangible assets are common, have higher Tobin's *q* ratios in comparison to industries where book values reflect the true nature of the asset holdings (i.e. with more tangible asset bases) (Amir & Lev, 1996). Family firm evidence of higher Tobin's *q* is also consistent with the argument that family firms have higher unreported intangible assets. Evidence suggests that due to the

nature of the intangible assets, the book values of family firms are understated relative to the true underlying level and are thus of lower value-relevance:

Proposition 1. Family firms' book values of equity are of lower value-relevance relative to non-family firms.

3.4 Family Firms and the Value-Relevance of Earnings

There are two potential effects of family firms' involvement upon the value-relevance of earnings. The first effect follows proposition one that the accounting book value of family firms does not reflect true book value then there are several further implications for earnings. If the family firm's unrecognised intangible assets were developed internally, then the extant accounting regulations expense the development costs of the intangible assets. However, if we accept that these family resources are additional assets of the business, then the development costs should be capitalised as assets on the balance sheet rather than expensed to profit (Cañibano et al., 2000). The policy of expensing means current accounting practices consistently understate the present value of earnings of family firms. By developing additional intangible assets that are not measured by accounting book value[1] but rather expensed in the period developed, the earnings of family firms are adversely affected, this may in turn lower the value-relevance of earnings.

However, the second effect impacts the value-relevance of earnings in a positive manner. The DM factors of family firms also have implications for the permanence of the earnings and cash flow streams. The literature suggests that families in business have a longer time horizon since they do not chase short run returns at the expense of long run gains (James, 1999). They also have patient capital and strong social networks (Sirmon & Hitt, 2003). This means that family firms expect returns over longer horizons and that the returns are more permanent and less transitory (Dechun, 2006). Research shows that the market values permanent earnings and transitory gains differently (J. Ohlson, 1999). The accounting literature has also shown that earnings and cash flow information signals have a persistence across time in that an earnings innovation in one period has implications for future periods; the impact on value is more than one period magnitude of change in returns(J. Ohlson, 1999). If family involvement translates into a higher proportion of permanent earnings (i.e. lower transitory earnings) and a higher proportion of longer run (i.e. more persistent) earnings and cash flows, then this needs to be weighed into valuation. Based on the two opposing effects we cannot predict directionality, however nonetheless propose that:

Proposition 2. Family firms' earnings are of not of the same value-relevance as for non-family firms.

4. Methodology

To test the two propositions in this paper we use a value-relevance methodology. If market participants will find accounting information from family firms less (more) useful then their association with the market values will be decreased (increased). In this section we describe the measurement of value-relevance and also the sample selection procedure.

[1]It is however important to note that valuing these intangible assets each year for the purpose of capitalization could be impractical as the measurement and valuation of these assets is a costly and time consuming process.

4.1 Measurement of Value-relevance

The value-relevance of accounting information can be defined as the ability of financial statements to summarize information that affects firm value (Collins et al., 1997). Even though there are lots of value-relevant information contained in the financial statements such as R&D expenses, earnings and book value of equity have been considered as two key value relevant financial statements summary measures. *FASB Concept Statement No. 1* states the primary focus of financial reporting is information about earnings and its components. Therefore, many researchers focused on a simple earnings capitalization model and empirically document the significant relation between earnings and equity value of firms. However, as Ou and Sepe (2002) point out, a simple earnings capitalization model without incorporating book value is likely misspecified because book value is believed to be a value-relevant factor in its own right. Peasnell (1982) and Ohlson (1995) also show that firm value can be shown as the book value and the sum of discounted present value of future abnormal earnings. Many empirical studies provide supporting evidence with their argument.

Empirical studies of value-relevance operationalize the above definition in two ways: a portfolio-returns approach and a regression approach. We choose the regression approach, which is based on a valuation framework developed by Ohlson (1995). Following his seminal work and subsequent empirical studies, we estimate the following regression:

$$P_{it} = a_0 + a_1 E_{it} + a_2 \mathrm{BV}_{it} + \varepsilon_{it}\,, \tag{1}$$

where P_{it} is the price of a share of firm i at fiscal year-end t; E_{it} is the earnings per share of firm i during the year t; BV_{it} is the book value per share of firm i at the end of year t; and ε_{it} is the residual error with zero mean and finite variance. We use the explanatory power of regression (adjusted R^2) as our metric to measure the value- relevance of earnings and book value. We also estimate the following regressions:

$$P_{it} = b_0 + b_1 E_{it} + \varepsilon_{it}\,, \tag{2}$$

and

$$P_{it} = c_0 + c_1 \mathrm{BV}_{it} + \varepsilon_{it}\,, \tag{3}$$

where P_{it} is the price of a share of firm i *at* fiscal year-end t; E_{it} is the earnings per share of firm i during the year t; BV_{it} is the book value per share of firm i at the end of year t; and ε_{it} is the residual error with zero mean and finite variance. These are estimated to examine separately the explanatory power that earnings and book value have for prices. These models also allow us to see the incremental explanation power of each variable.

4.2 Family Firm Definition

For this research, we use Villalonga and Amit's (2006) family firm definition, in which a firm is said to be a family firm when the family is the largest shareholder and has at least one officer or one director currently in the firm.

4.3 Matched Firm Sample

The sample consists of 169 family firms and 169 non-family firms that were listed on the Australian Stock Exchange (ASX) during the financial year of 2005-2006. We choose 2005-2006 as our financial year as this precedes the global financial crisis. Data was collected from Aspect/Huntley databases and Bureau van Dijk's Osiris database. The company's age of incorporation and other governance characteristics were collated from Aspect/Huntley Data Analysis databases. Firm industry classification, financial performance and financial structure

were collected from Aspect/Huntley Financial Analysis databases. Supplemental variables were obtained from the Osiris database.

For the purposes of answering the research question we used a matched firm sample. This is the technique used in all previous research that has looked at the impact of ownership upon the value-relevance of accounting information (Bae & Jeong, 2007). Each identified family firm was matched with a firm that was in the same industry and was within ten percent of its size (based on market value). If no suitable match was found the firm was dropped from the sample. For firms with more than one match the matching firm was chosen on closeness in age. We chose to use market value as our measure of size as it is not biased by accounting estimations and judgements. Using this procedure we established a final sample of 338 firms in total, 169 family firms and 169 non-family firms.

5. Results

5.1 Descriptive statistics

We begin the results by an overview of the sample statistics. The sector classification of the firms is reported in Table 1. The largest sector in the sample is the Materials sector which accounts for 22.49% of the firms in this study. Other large sectors are the Financials and the Industrial sectors, compromising 15.98% and 15.38% of the sample respectively. The descriptive statistics are shown in Table 2. The mean (median) market value for the pooled sample is AUD $159.46 ($35.55) million, the mean (median) market value for family firms is equal to AUD $163.35 ($35.55) million while the mean (median) market value for non-family firms is AUD $155.56 ($35.89) million. The median market value for the two groups are fairly similar and significantly smaller than the means indicating that the sample has a number of very large firms that are increasing the mean market value by a large amount. The mean age (years since incorporation) for the firms in the pooled sample is 19.61 years, the mean age for family firms is 21.17 years while the mean age for non-family firms is 18.03. Thus while the matching procedure attempted to control for age, family-firms in general tend to be older than their counterparts. We also calculated price to earnings and price to book ratios for the sample and the two groups of firms. The mean price to earnings value for all firms in the sample is equal to 9.05 while for family firms (non-family firms) the price to earnings value is equal to 10.38 (8.23). The price to earnings ratios indicates that family firms are valued higher per each unit of net profit. Furthermore, the difference in the mean and median is larger for non-family firms indicating that this group has a large portion of firms with low profitability causing a decrease in the median value. The mean price to book value in the pooled sample is equal to 3.00 while for family firms (non-family firms) the price to book value is equal to 3.21 (2.79). This indicates that the market does recognize that family firms have a higher amount of unrecognized intangible assets. We also calculated the mean debt to asset ratio for the group, which equalled 0.37. However there was no difference in the mean leverage between the two groups.

5.2 Cross-sectional Regressions of Price on Earnings and Book Value

Table 3 presents the results cross-sectional regressions of price on earnings and book Value. The R^2 for the pooled cross-sectional time-series regression indicates that earnings and book values jointly explain about 77.1 percent of the cross-sectional variation in stock prices for our whole sample. This is in line with recent research on the Australian market (Goodwin & Ahmed, 2006; Habib & Azim, 2008). Regressing standalone earnings on market values

shows that they explain 62.8% of cross-sectional variation in stock prices, while book values explain 66.3% of cross-sectional variation in stock prices.

The comparison of family and non-family firms tells an interesting story. For model 1, the R^2s for the two groups of firms are 80.8 and 75.7 percent, respectively. The explanatory power of family firms is thus 5.1 percent higher than that of non-family firms. When we investigate the explanation power of the standalone earnings we can observe that they explain 69.7% (58.1%) of cross-sectional variation in stock prices for family (non-family) firms.The explanatory power of earnings for family firms is 11.5 percent higher than that for non-family firms. As the market finds the earnings figure of family-firms more useful for valuation purposes we can assume that it indicates that the reliability of the reported earnings figure is deemed as higher than for non-family firms, suggesting that proposition 2 is validated and that the relationship between family ownership and value-relevance of earnings is positive. Focusing on model 3, we show that book valuese explain 64.6% (71.0%) of cross-sectional variation in stock prices for family (non-family) firms. The explanatory power of book values for family firms is 6.4 percent lower than that for non-family firms. This provides support for proposition 1.

5.3 Actively controlled family firms

Prior research has indicated that actively controlled and passively controlled family firms differ in their behaviour and performance (Amit & Villalonga, 2006; Anderson & Reeb, 2003). When the firm has a family member in the CEO or Chairman of the board position we deem it to be actively controlled by the family. We thus investigate if the effect is different for these firms. In our sample of 169 family firms, 127 of those firms are actively controlled. We run model 1 to 3 on these firms and their matched pairs, giving us a sample size of 254 firms. Table 4 presents the results of the regressions. We observe that the difference in R^2 for model 1 for the groups is not changed by large amount. However, looking at model 2 and 3 we can see that regressing standalone price on earnings leads to a significantly different result than in table 3. The earnings effect seems to be more prominent for these actively controlled family firms as the explanatory power of earnings for family firms is 21.1 percent higher than that for non-family firms. Simultaneously we also observe that the book value effect observed in Table 3 for model 3 is also more prominent. The explanatory power of book values for family firms is 9.6 percent lower than that for non-family firms.

6. Discussion & Conclusion

This study investigated the relationship between family ownership and the value-relevance of two primary accounting measures, earnings and book value. We provided theories of the effect of founding ownership on the value-relevance of earnings and book value. We contended that current accounting technology does not fully recognise the family firm factors in the book value or earnings of the firm, and thus made these two accounting measures of less value-relevance. We found that the value-relevance of earnings is higher for family firms. We believe this provides evidence that market participants find the earnings figures of family firms of better use for valuation purposes. This stems from the long-term orientation of family firms and their decreased inclination to manage their earnings. The earnings figure of family firms is thus believed to be a better signal of the value of the firm. Simultaneously we find that the value-relevance of book value is lower for family-owned firms. This indicated that family firms do indeed have more unrecognized intangible assets, making the book value figure of less usefulness. As family firms tend to focus on intangible asset generating activities, such as reputation building and human development of employees, this becomes a major part of the value of asset base. However, these assets are not recognised in the book value of these firms and thus make the reported figure of less use to investors. As

investors do not use it in valuation, the relationship between book value of family firms and the market value becomes weaker.

Furthermore, we showed that in cases of active family control, where the firm has a family member in the CEO or Chairman of the board position, the effects on value-relevance are amplified. In comparison to non-family firms, their earnings become even more value-relevant, while their book values are deemed as less relevant. This provides further support to previous research that has indicated that active and passive family ownership has different effects on the firm (Amit & Villalonga, 2006; Anderson & Reeb, 2003).

One of the primary purposes of financial information is to provide current and potential investors a basis for decision-making (Francis & Schipper, 1999). Based on our results accounting information is insufficient for accurately estimating the assets and earnings of a family firm. This has serious capital markets implications. Investors relying heavily on financial information as part of their decision-making are less likely to invest in family firms since the financial information available implies that family firms are performing at a lower level than they really are. If investors are less likely to invest in family firms, then according to the laws of supply and demand these firms will also be undervalued in the capital markets. Conversely, since investors favour non-family firms, these firms are, in fact, overvalued in the capital markets. The most likely scenario is that the market adjusts the valuation parameters to account for the mis-specified book value and earnings information and thus values the family factors in family firms, albeit imperfectly. Arguably, if better measures of book value and earnings were available, then the market would value family firms with less error.

Misspecification of book value of equity and earnings has implications for prior research. We contend that family firms have more unrecognised intangible assets than non-family firms. Due to DM factors, a higher proportion of returns (earnings and cash flows) for family firms are likely to be permanent over a longer period of time. The inability to capture the true book value, returns and permanence of the earnings will skew accounting based ratios. As performance studies often use earnings and book value-based figures for performance ratios, conclusions from these studies must be limited to accounting performance rather than true performance.

Our study has two major limitations. First, it is based on a single year of data collection and thus only covers the financial year of 2005-2006. However, we believe that as we used a cross sectional sample that the use of a single year should not be causing a bias in our results; furthermore we matched the firms based on market value and age. Second, the sample uses the Australian market. This is an issue as the Australian market is in general much smaller than its International counterparts. We can thus not be sure that these results apply to very large family firms, however seeing as these firms only make up a very small portion of family firms we believe our results are highly relevant for family firms in general.

Notwithstanding such limitations, to our knowledge this is the first study investigating the relationship between family ownership and the value relevance of accounting information. We believe further research is needed to establish if this effect upon the value-relevance of earnings and book value exists internationally, and also establish the conditions for such an effect. As our study used an Anglo-Saxon institutional setting it would be interesting to replicate this study in a different institutional and cultural setting.

Table 1

Sector classification of sample firms

GICS Sector	*Family Firms*	*Non-Family Firms*	*Pooled*	*Percent*
Consumer Discretionary	23	23	46	13.61%
Consumer Staples	3	3	6	1.78%
Energy	15	15	30	8.88%
Financials	27	27	54	15.98%
Health Care	19	19	38	11.24%
Industrial	26	26	52	15.38%
Information Technology	14	14	28	8.28%
Materials	38	38	76	22.49%
Telecommunication Services	4	4	8	2.37%
Total	169	169	338	100.00%

Table 2

Descriptive Statistics

	Pooled		*Family Firms (A)*		*Non-Family Firms (B)*	
Variables	*Mean*	*Median*	*Mean*	*Median*	*Mean*	*Median*
Age	19.61	14.00	21.17	14.00	18.03	14.00
Market value (million)	159.46	35.55	163.35	35.55	155.56	35.89
P/E	9.05	6.25	10.38	8.23	7.71	3.66
P/B	3.00	2.03	3.21	2.11	2.79	2.02
Debt to Assets	0.37	0.32	0.37	0.29	0.37	0.34

Table 3
Cross-sectional Regressions of Price on Earnings and Book Value

	Pooled			*Family Firms (A)*			*Non-Family Firms (B)*			*Difference in R^2*
Model	*E*	*BV*	R^2	*E*	*BV*	R^2	*E*	*BV*	R^2	*(A-B)*
I	5.654*	0.916*	0.771	7.597*	0.718*	0.808	3.693*	1.265*	0.757	0.051
II	10.040*		0.628	11.780*		0.697	8.808*		0.581	0.115
III		1.456*	0.663		1.292*	0.646		1.747*	0.710	-0.064

Notes:
* Significant at 1 percent
This table presents the estimation results of cross-sectional regressions of price on earnings and book value. The regression models are based on the following equations:
Model I $P_{it}= c_0 + c_1E_{it}+ c_2\mathrm{BV}_{it}+ \varepsilon_{it}$
Model II $P_{it}= a_0 + a_1E_{it}+ \varepsilon_{it}$
Model III $P_{it}= b_0 + b_1\mathrm{BV}_{it}+ \varepsilon_{it}$.
P is the price of a share of a firm at fiscal year-end. *E* is the earnings per share. BV is the book value per share of a firm. All variables except P are measured at fiscal year-end. The sample consists of 338 firms that were listed on the ASX during the financial year of 2005-2006.

Table 4
Cross-sectional Regressions of Price on Earnings and Book Value using a subsample of actively controlled Family Firms

	Pooled			*Family Firms (A)*			*Non-Family Firms (B)*			*Difference in R^2*
Model	*E*	*BV*	R^2	*E*	*BV*	R^2	*E*	*BV*	R^2	*(A-B)*
I	5.254*	1.043*	0.708	7.862*	0.668*	0.738	3.490*	1.279*	0.706	0.032
II	9.252*		0.586	10.602*		0.700	8.127*		0.489	0.211
III		1.692*	0.609		1.697*	0.560		1.688*	0.656	-0.096

Notes:
* Significant at 1 percent
This table presents the estimation results of cross-sectional regressions of price on earnings and book value. The regression models are based on the following equations:
Model I $P_{it}= c_0 + c_1E_{it}+ c_2\mathrm{BV}_{it}+ \varepsilon_{it}$
Model II $P_{it}= a_0 + a_1E_{it}+ \varepsilon_{it}$
Model III $P_{it}= b_0 + b_1\mathrm{BV}_{it}+ \varepsilon_{it}$.
P is the price of a share of a firm at fiscal year-end. *E* is the earnings per share. BV is the book value per share of a firm. All variables except P are measured at fiscal year-end. The sample consists of 254 firms that were listed on the ASX during the financial year of 2005-2006.

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