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Corporate Governance and Family Firm Performance During the Global Financial Crisis.

Abstract

We investigate the impact of corporate governance on accounting and market performance relationships of family firms during the Global Financial Crisis (GFC). We expect the monitoring aspects of corporate governance to compliment the long-term orientation of family firms improving the value relevance of accounting and market performance during times of exogenous financial shocks such as the (GFC). We find that the family-firm value is more sensitive to book value than earnings changes. We also find better corporate governance, irrespective of whether it is a family firm or non-family firm, is associated with better accounting and market performance during the GFC.

Key words: Corporate governance, family business, accounting performance, firm value, market performance, Global Financial Crisis.
JEL Classification: M40, M41

1. Introduction

A central premise of family firm research is that family firms exhibit superior accounting performance and market performance relative to non-family firms. This is due to the controlling family's unique long term orientation, ownership and governance attributes (Pérez-González 2006; Villalonga and Amit 2009; Maury 2006; Miller and Le Breton-Miller 2006; Miller et al. 2007; Hongfeng, Xiao, and Xiaoquan 2017; Wang and Shailer 2018; Dyer 2006). We extend this literature by exploring the impact of good corporate governance practices on the accounting performance and market performance of family firms during the exogenous financial shock of the 2008-2009 Global Financial Crisis (GFC).

The GFC exposed firms to significant external shocks including low finance liquidity, overnight failure of customers and markets, downturns in revenue, spikes in uncertainty and pronounced negative sentiment (Crottry 2009; Matt 2012; Grillitsch and Tavassoli 2018; Kim, Kim, and Lee 2015). These adverse conditions tested the ability of the firm managers and owners to marshal resources and develop strategies to allow the firm to respond to the external shock and therefore perform and survive. The question we explore is whether good governance and family control differentially impact accounting performance and market performance in such circumstances. On the first point, we can draw on the large

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body of research that asserts good corporate governance positively affects firm performance. The empirical evidence finds mixed support for this proposition, partly due to confounding endogeneity issues (Black, Love, and Rachinsky 2006; Schultz, Tan, and Walsh 2010; Bhagat and Bolton 2008; Miller et al. 2007; Brown, Beekes, and Verhoeven 2011; Dwivedi and Jain 2005; Martínez and Requejo 2017; Xie 2015). Researching disequilibrium situations such as the GFC, where the governance driver of performance should matter more and therefore differentially affect firm performance, potentially addresses the conflicting results and endogeneity concerns. Johnson *et al.* (2000) find a significant positive impact of governance during the Asian Financial Crisis (AFC) however Gupta, Krishnamurti, and Tourani-Rad (2013) find that well governed firms do not outperform firms with poor governance across a sample of developed countries. In contrast Aldamen *et al.* (2012) find that governance enhancing Audit Committee characteristics mitigate the firm performance impact of the GFC for Australian firms. Finally recent evidence suggests that the financial monitoring dimension of governance (audit committee characteristics) positively impacts discretionary accruals quality and that this mitigating effect is amplified during the GFC (Aldamen and Duncan 2016; Bryce, Ali, and Mather 2015; Medhat et al. 2018).

While the impact of good governance during the GFC is attracting researchers, there is only limited evidence on the performance impact of family control during periods of financial crises. Most family-firm research is conducted in periods of stable markets and the conventional wisdom is that family firms exhibit higher accounting profitability (ROA) and market performance (Tobin's *Q* or price-to-book value (P/B) ratio). Despite the conventional wisdom there are studies that find either no or a negative family effect on performance, suggesting there is an opportunity for further research in this area (Chua et al. 2018) . Two contemporaneous studies provide conflicting evidence on the relative market performance during the GFC of family firms and non-family firms. Lins *et al.* (2013) show that family firms, defined as firms with more than 25% ultimately controlled by a family, underperformed the market. In contrast, other non-family, block-holder controlled firms, outperformed the market in the GFC and Lins *et al.* (2013) argue that the performance difference is due to the family consumption of private benefits during the GFC. However, the negative relation for family firms is driven by firms in emerging markets and the

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result does not hold for developed markets.[1] Zhou *et al*. (2013) and Wang and Shailer (2018), find family firms do not significantly outperform non-family firms during the crisis in terms of accounting performance (ROA) and market performance (Tobin's *Q*) except where the founder was actively involved as CEO, a board member or a significant block-holder. Where the founder is still involved, the firm shows significantly higher accounting performance, but market performance is not significantly different to non-family firms.

This last finding is puzzling given the value relevance literature suggests that accounting performance drives market performance (Wang and Shailer 2018; Alexander 2016; Lin, Liu, and Noronha 2016). Thus, we would expect family control to positively impact accounting performance and for this to translate to a positive impact on market performance. The implication of Zhou *et al*.'s (2013) evidence is that accounting performance is less value relevant for family firms during the GFC. This affect may not be uniform for all family firms. Lins *et al.* (2013) and Zhou *et al*. (2013) only consider the control aspect of governance and do not consider other aspects of the family firm's governance environment, in particular audit oversight, that may mitigate the propensity to consume private benefits during the GFC. We know from the governance literature that adopting better corporate governance practices, such as an enhanced audit committee, quality external auditors, and board independence, improves monitoring of management and reduces information asymmetry problems (Aldamen *et al.* 2012; Aldamen and Duncan 2016). Firms with better corporate governance are expected to exhibit a stronger accounting-market performance relevance relationship (Chalmers, Clinch, and Godfrey 2011; Choi, Kim, and Lee 2011; Christensen et al. 2015; Koh, Laplante, and Tong 2007).

We contribute to the family and governance literatures by investigating the GFC accounting-market performance relationship for family controlled Australian firms. The 2008-2009 GFC differs from prior financial crises in that just prior to the GFC Australia, like many jurisdictions, imposed significant and costly governance requirements aimed at improving the monitoring, financial disclosure and control

[1] Lins *et al.* (2013) find no significant market performance differences for family controlled firms in developed markets for their sample of 40 countries which excluded the United States (US).

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of public firms. The "if not why not" more flexible corporate governance regime in Australia coupled with the natural experimental context of the GFC, represents a rich context in which to explore the interaction of family control and corporate governance systems in place. We argue that good-governance practices should complement family ownership and long-term orientation and result in greater monitoring and transparency, improved financial decision making, and enhanced risk assessment. If governance matters, then family-controlled firms with good corporate governance practices are less likely to engage in value destroying consumption of private benefits during the GFC and hence their accounting performance will have a higher value relevance to the market.

Our contribution is to show that a firm's internal governance mechanisms mitigate the impact of the GFC, when it should matter most, and enhances the value relevance of accounting performance. We show that this result applies to both family and non-family firms. Consistent with the positive accruals quality-governance-GFC association documented by Aldamen and Duncan (2016) we find better governance, irrespective of whether the firm is family or non-family, is associated with higher accounting-market performance relation during the GFC. We also find that accounting earnings are more value relevant for family firms during the GFC but that adopting good governance results in a reduced accounting-market performance relation. This evidence suggests that the internal governance environment of a firm, rather than the firm's control characteristics, is the important performance driver in periods of financial shock. In addition, family control and good governance appear to behave more like substitutes than compliments.

We introduce the notion of socioemotional wealth (SEW), which refers to the firm's non-financial characteristics that respond to the family's affective needs. Examples include family identity, influence, and succession from one generation to the next (Gómez-Mejía, *et al.*, 2007; Berrone, Cruz, Gómez-Mejía and Larraza-Kintana, 2010; Berrone, Cruz and Gómez-Mejía, 2012). We suspect that during periods of financial difficulties, good corporate governance increases chances of survival for family firms. This is evident in the higher emphasis on earnings during periods of financial distress relative to pre-GFC period. Furthermore, we anticipate that the market expects residual sub-optimal decisions by family firms in

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attempt to preserve their SEW rather than maximising firm value. Although we find a positive governance effect consistent with the internal financial distress, the governance impact is not as strong as for non-family firms.

The remainder of the paper proceeds as follows. Section two reviews prior literature and distils the key theoretical relationships between performance and corporate governance for family and non-family firms. Three empirical value relevance models are developed for testing these relationships. Section three describes the research design which includes the sample, variable measures and the empirical methods used to measure the relationship between corporate governance and performance for family and non-family firms. Section four presents the data and the results for estimation of the models. Finally, section five offers a discussion of the results and their implications as well as a conclusion to the paper.

2. Literature Review and Model Development

Our starting premise is that family firms outperform non-family firms due to distinct differences in management and control mechanisms and the unique bonds that link the family to the firm (Adams, Almeida, and Ferreira 2009; Manjon 2007; Pérez-González 2006; Miller and Le Breton-Miller 2006; Maury 2006; Chen et al. 2005; Mak and Roush 2000; McConaughy et al. 1998; Short 1994; Holmes and Zimmer 1994). The family-firm literature has established factors such as long-term orientation and unique-intangible assets that differentiate family firms. Evidence suggests that these family-firm factors are associated with family firms outperforming non-family firms.

More recently the literature recognised that the decision making process for family controlled firms is different when compared to non-family controlled firms (Gómez-Mejía *et al.* 2011; Dobler 2014; Hashim and Amrah 2016; Sakinah Azizan 2012). Gómez-Mejía *et al.* (2007) argue that families place great importance on preserving their control, identity and family dynasty. Family firms also value harmony amongst family members, upholding their public image and succession from one generation to the next (Berrone, Cruz, and Gómez-Mejía 2012; Lohe and Calabrò 2017). Gómez-Mejía *et al.* (2011)

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note that in some cases the blending of family and firm is to the point that the two become intertwined generating a strong emotional attachment between the family and the firm.

While achieving positive financial results is a key goal for non-family firms, family firms have an additional incentive to prioritize non-financial results in order to maintain family influence and fulfil the family's objectives (Angulo, Villanueva, and Solís 2016; DeTienne and Chirico 2013). Furthermore, family firms may take on added financial risk to preserve their emotional connection with the firm (Gómez-Mejía *et al.* 2014). This socioemotional bond between the family and the firm is a form of wealth that families use as a reference point for decision-making (Gómez-Mejía *et al.* 2007). In the event that socioemotional wealth (SEW) is threatened, the family will be loss averse, to protect their endowment of SEW, consistent with prospect theory (Kahneman and Tversky 1979). Thus family firms may make decisions that are financially unprofitable to protect their SEW (Berrone, Cruz, and Gómez-Mejía 2012; Berrone et al. 2010). Evidence shows that family firms will reject decisions that enhance financial performance if these decisions negatively impact the family's SEW (Gómez-Mejía *et al.* 2007; Berrone *et al.* 2010; Leitterstorf and Rau 2014; Gómez-Mejía *et al.* 2014) although this effect depends on the generational stage and whether or not the firm has a family CEO or family dominated board (Gottardo and Moisello 2015; Vandemaele and Vancauteren 2015).

The question is how family firms will behave when faced with a crisis. Will they sacrifice financial wealth to preserve SEW? A recent paper by Lohe and Calabrò (2017) finds that during internal financial crisis or distress, families seek to preserve control and reputation and thus SEW at the expense of financial performance of their firms. It is an empirical question whether or not this limited internal distress evidence will translate to Australian-family firms dealing with the GFC. It could be that the exogenous nature of the GFC focused family firms on financial survival as to preserve future potential SEW. Our proposition is that preserving SEW and financial wealth are aligned incentives during the external GFC shock. This is due to the tie between the family and firm performance and survival.

Proposition 1: Family firms outperform non-family firms during the GFC.

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To explore this proposition we employ Ohlson's (1995) valuation framework that models value as a function of earnings and book value. The core accounting information signals capture the performance of management, be they family or non-family management teams. This relationship can be specified as market to book value as a function of earnings to equity ratio or return on equity (ROE) as follows:

$$MV_{it}/BV_{it} = \alpha_0 + \gamma_1 X_{it}/ BV_{it} \quad (1)$$

where MV_{it} is market value of firm *i* in period *t*, X_{it} is firm *i*'s earnings for period *t* and BV_{it} is the book value of equity for firm *i* at the end of period *t*. The family firm literature has tested two aspects of the relation in equation (1): namely whether the dependent variable (market to book value), a measure of market value, and the independent variable (earnings to equity), a measure of accounting performance, are different between family and non-family firms. Typically market value is operationalised as market to book value (or price to book value, P/B), a proxy for Tobin's *Q* (the left hand side of equation (1)) (Black, Jang, and Kim 2006; Dwivedi and Jain 2005; Chen, Guo, and Mande 2003; Callahan, Millar, and Schulman 2003; Morck, Shleifer, and Vishny 1988; Lemmon and Lins 2003). Accounting performance is typically operationalised as return on equity (the right-hand term in equation (1)) or a derivation such as return on assets (ROA – where ROA adjusted for leverage is ROE).

What does the aggregate evidence based on these measures tell us? If we consider the value relationship in equation (1), then it could be that the observed higher Tobin's *Q* for family firms is due to higher earnings or return on equity. However the conflicting earnings evidence in the literature (Hasso and Duncan 2010; Duncan and Moores 2014) suggests that the nature of the innovation is more complex or that there are other factors that are not specified. Nevertheless there is fairly consistent evidence that family firms exhibit higher Tobin's *Q* (Black, Jang, and Kim 2006; Dwivedi and Jain 2005; Chen, Guo, and Mande 2003; Callahan, Millar, and Schulman 2003; Morck, Shleifer, and Vishny 1988; Lemmon and Lins 2003). If this observed result is not due to earnings innovations for family firms (as captured by ROE or ROA) then the value relation suggests an alternative argument that family firm factors impact the fixed

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effect or slope coefficients (α_0 and γ_1) (equation (1). A larger slope parameter means family firms exhibit a higher earnings capitalisation parameter or price-earnings (PE) ratio for any given level of earnings.

The implication for valuation is that researchers need to focus on the factors that impact the slope coefficient rather than earnings per se to better understand the drivers of family firm value. One such factor is the nature of the corporate governance adopted by the firm. We argue that if governance has a role in increasing firm performance and value, as suggested by the prior theory and evidence (Brown and Caylor 2009; Klein 1998; Bebchuk, Cohen, and Ferrell 2009; Miller et al. 2007; Kapopoulos and Lazaretou 2007; Miller and Le Breton-Miller 2006), then this effect should be most evident when the firms face adverse circumstances and be amplified for family firms. In the unique form of shareholder activism permitted in Malaysia, Azizan and Ameer (2012) show that family firms respond to governance pressure to improve performance over time.

Often firms manage shocks that are endogenous while on other occasions they are completely exogenous such as the GFC. We expect that the governance impact during the GFC should manifest in greater monitoring and transparency, improved financial-decision making, and improved risk assessment. We propose that family firms (due to their unique family factors) with better corporate governance (more formal governance in place) will outperform other firms. This view is consistent with Lohe and Calabrò (2017) finding that family firm boards that contribute financial governance perform better during internal financial crises as well as the broader consensus about the positive effects of competent family firm boards during firm crises (Le Breton-Miller and Miller 2013).

Proposition 2: Better corporate governance will contribute to the performance difference of family firms during the GFC.

To explore proposition two, we reformulate the value relationship as a returns analysis by taking first differences to arrive at an estimable model where return for firm i in period t, R_{it}, is a function of firm i's earnings for period t, X_{it}, and the additional earnings impacts for family factors (FF) and corporate

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governance (GOV). To test this relation, we estimate the reduced form model including controls for size, leverage, age, and industry dummies as follows:

$$R_{it} = \beta_0 + \beta_1 X_{it} + \beta_2 X_{it} FF_i + \beta_3 X_{it} GOV_i + \beta_4 Control_{ji} + \varepsilon_i \quad \text{Model (1)}$$

Model (1) suggests that returns for family firms is impacted by family factors and governance factors via slope dummy variables. We also investigate several derivations of Model (1). In addition to market returns analysis we also consider a two levels specification drawing on the Ohlson (1995) formulation in Models (2) and (3) as follows:

$$P_{it} = \beta_0 + \beta_1 X_{it} + \beta_2 X_{it} FF_i + \beta_3 X_{it} GOV_i + \beta_4 BV_{it} + \beta_5 BV_{it} FF_i + \beta_6 BV_{it} GOV_i + \beta_7 Control_{ji} + \varepsilon_i \quad \text{Model (2)}$$

Where BV_{it} is book value of the net assets firm *i* in period *t*. Dividing Model (2) by total assets and assuming that the book value ratios are captured by the intercept gives Model (3). From this, we get Tobin's *Q* as a function of return on assets (*ROA*) with slope dummies for family firms and governance (similar to equation (1) earlier).

$$TobinQ_{it} = \beta_0 + \beta_1 ROA_{it} + \beta_2 ROA_{it} FF_i + \beta_3 ROA_{it} GOV_i + \beta_4 Control_{ji} + \varepsilon_i \quad \text{Model (3)}$$

3. Data, Variables and Methodology

3.1 Sample

We focus on publicly listed family firms because they are required to disclose information about their governance environment, a requirement which does not apply to private family firms. Our initial sample consists of 2293 non-financial companies listed on the Australian Securities Exchange (ASX) from 2007 to 2010. This period captures just before the GFC in 2007 through to 2010 that is arguably the end of the worst of the GFC for Australian firms. One down side of choosing this period is it creates a survivorship bias in our sample. However, we argue that the governance-family control impact on failure is beyond the scope of this study and we leave the study of firms that failed during the GFC to future papers. The final sample was 645 once we exclude non-trading companies and those with missing,

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incomplete data or extreme values. Of these 123, or about 19%, are identified as family firms in prior research (Yupitun 2008). The data was collected from annual reports and database information from MorningStar's DatAnalysis and Bloomberg.

Insert Table 1 about here

3.2 Variables

The definition of family firms is a challenge for family business researchers and has been cited as a possible explanation for the mixed and conflicting results (Miller et al. 2007; Duncan and Moores 2014). We define a firm to be a family controlled firm when the family is the largest shareholder and is represented by one officer or director which is consistent with other major Australian and international studies of family firms (Villalonga and Amit 2006; Yupitun 2008). This is a richer definition than the family control literature (for examples see the performance-GFC-family control papers by (Lins, Volpin, and Wagner 2013; Zhou, Wang, and He 2013)) that focuses on block holdings as the measure of family connection to the firm. We capture family firm control in our analysis with a dummy family firm variable, *FF*, which equals one for family-controlled firms and zero otherwise.

Corporate governance measurement presents another challenge to researchers as there is no dominant measure in the literature. Nevertheless, recent research focuses more on composite governance indices than single governance measures (Brown, Beekes, and Verhoeven 2011). The use of indices reflects the emerging theme that good governance does not mean uniform governance across companies (Filatotchev, Toms, and Wright 2006) and is more consistent with the 'if not why not' governance regulatory environment in Australia. Therefore, rather than focus on the level of individual governance dimensions, which might not capture the variability in governance climate between family and non-family firms, we compute a governance index that reflects the firms' aggregate governance structure. We employ twelve individual governance variables to capture the multi-faceted governance concept, drawn from the prior literature and defined in Table 2 (Fama and Jensen 1983b; Davidson, Bouresli, and Singh 2006;

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Ang, Cole, and Wuh Lin 2000; Kent and Stewart 2008). The individual governance measures include board size, board independence, duality of the role of board chair and chief executive officer, frequency of board meetings, the presence of nomination and remuneration committees, audit committee charter, size of audit committee, audit committee independence, financial expertise of the audit committee, audit committee meetings and Big Four external auditor.

Insert Table 2 about here

Consistent with previous literature we compute a corporate governance composite index that summarises the twelve individual corporate governance variables into a single index of governance (Gompers, Ishii, and Metrick 2003; Defond, Hann, and Hu 2005; Brown, Beekes, and Verhoeven 2011). All governance variables are transformed to a binary scale by allocating a value of one if the individual corporate governance variable is above the sample median and zero otherwise. The twelve dichotomous variables are summed to produce a governance composite, *GovIndex*, which has a maximum value of twelve (indicating strong corporate governance) and a minimum value of zero (indicating weak corporate governance) (Defond, Hann, and Hu 2005) as follows:

$$GovIndex_i = \sum_{j=1}^{12} CorpGov_{ji}$$

Where $GovIndex_i$ is an aggregate index of corporate governance for firm *i* and $CorpGov_{ji}$is the *j*th individual corporate governance variable for firm *i* (see Table 2). We classify the top quartile on the *GovIndex* as good governance and use a dummy variable, *GOV*, to represent this in our analysis where one is good governance (where *GovIndex* ≥ 8) and zero otherwise. We also include controls for size, leverage, age and industry in the estimation models. Company size, *SIZE*, is the log of total assets. Leverage, *LEV*, is measured as total debt divided by total assets. Company age, *AGE* is the number of years since incorporation. Finally, industry is measured using a fixed effect model with standard errors clustered by industry.

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3.3 Methodology

Prior research identifies governance to be endogenously determined.[2] Specifically, there are concerns about the relationship between governance characteristics of the board, firm performance and the endogeneity that may be implicit in this relationship (Schultz, Tan, and Walsh 2010; Gippel, Smith, and Zhu 2015; Brown, Beekes, and Verhoeven 2011). The specific issue is whether a firm's performance drives the board structure and governance features or the board drives performance, or whether some other variable drives both. The CEO is an obvious candidate for the latter. It is argued that the nature of governing boards today are significantly different from boards in the 1960s (Bhagat and Black 1999) and that these changes are driven by adverse shocks to the market such as the 1987 stock-market crash (Cadbury 1999), the savings and loan crisis of the early 1990s (Miller 1998), the internet bubble of 2000 (Thornton and Marche 2003) and finally the 2008-2009 GFC which is the subject of our study. Our proposition is that governance matters to a far greater extent when there is an unexpected exogenous shock; that is, the governance comes into prominence when expectations are not met in a rapidly altered external environment. By choosing an exogenous and largely unexpected event, we assess the governance-performance relationship before the performance can affect the composition of the board. That is, the research design controls for the implicit endogenous effect (Aldamen et al. 2012; Aldamen and Duncan 2016; Gippel, Smith, and Zhu 2015; Jiraporn et al. 2018; Shuo and Stephen 2018).

4. Analysis and Results

4.1 Descriptive Statistics

The average market return for 2008 is negative for the pooled sample and for the family and non-family firm sub-samples reflective of the down turn due to the GFC. As shown in Figure 1 the 2006-07 period is very prosperous on average for firms but the GFC negatively impacted returns in 2008 and 2009 only to rebound in 2010. Figure 1 also shows that the All Ordinaries market index dropped from a high at the end of 2007 to about half that level in early 2009.

[2] Endogeneity issues plague much of the governance (see Brown *et al.* (2011) for a review) and more generally accounting (see Larcker and Rusticus (2010) for a review) and finance literature see Bhagat and Bolton (2008)).

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Insert Figure 1 about here

Descriptive statistics for the main variables in the models are reported in Table 3 for the pooled sample and for the family and non-family firm sub-samples. We also report the results for an *ANOVA* testing the equivalence of the variable means for family and non-family firms. The results show that only two of the univariate variables are significantly different between family and non-family firms. Furthermore, family firms carried more debt in 2008 than non-family firms, are less likely to make losses over two or more sample years and are more profitable in 2007 and 2008 than non-family firms. The result also indicates that thirty percent of non-family firms exhibit good governance compared to 24% of family firms but the difference in means is not significant at the 10% level.

Insert Table 3 about here

4.2 Model Estimation

We estimate the returns and levels models developed earlier to test whether better corporate governance impacts the performance and valuation of family versus non-family firms before (2007), during (2008) and coming out of the GFC (2009). Using a pooled model would be ineffective because it averages out the context effects. We are specifically interested in the differences and impacts that the models would have for the individual years. Additionally, we include industry fixed effects in each model rather than random effects based on a Hausman test. Firm fixed effects are not included as this would greatly reduce degrees of freedom. We also do not adopt the common Fama–MacBeth (FM) standard errors as we only have three time periods of data. Using the FM approach on such a limited time period would be noisy. Instead we employ robust standard errors clustered by industry (Gow, Ormazabal, and Taylor 2010).

Table 4 reports the results for the three accounting performance-value models estimated. To test the slope effects as theorised, we convert the *GovIndex* variable into a dummy variable *GOV* as defined earlier. We code the top quartile as good governance as these are the firms that tend to have stronger

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committee and audit governance features, which we expect to have a greater impact on performance during the GFC (Aldamen *et al.* 2012; Aldamen and Duncan 2016).

Insert Table 4 about here

Model (1) examines the relationship between market returns, earnings and the impact of family and governance factors. The results in Table 4 show that returns, for the period 2007-09, are not related to earnings and neither the family control nor governance factors change this relationship. The explanatory power of Model (1) is low and thus the majority of the explanation is simply the large exogenous impact of the GFC on market prices in 2008.

In Model (2), a levels model, we explore the relationship between market value (share price), earnings and book value. The results in Table 4 indicate that share price is positively related to earnings and book value at the 1% level respectively for all years. This is consistent with the standard Ohlson (1995) valuation framework. Interestingly across the three years the coefficients on earnings (*X*) and book value (*BV*) both decrease. There is also a positive earnings-family firm slope effect (*X*FF*) for 2007 and 2009 but not 2008. This suggests that the earnings for family firms are more value relevant than for non-family firms at least in 2007 and 2009. It is possible that this reflects that fewer family firms are consistent loss makers. We will return to this issue later to consider differential models for loss making and profitable firms. The slope dummy for book value for family firms is not significant in any year suggesting assets have a similar valuation weighting for family and non-family firms.

Significantly we find good governance has a positive impact on the accounting-market performance relation. For the period 2007-09, the slope coefficient for earnings is higher for good-governance firms (*X*GOV* is positive) with a corresponding lower book value weight (*BV*GOV* is negative). This indicates that higher governance is associated with a higher earnings weight but a lower book value weight in the valuation model. However, for the same period, share price is negatively related to earnings for family firms with good governance (*X*FF*GOV* is negative). These lower earnings weights for family firms with good governance partly offsets the positive family-earnings slope coefficient (*X*FF* significant in 2007 and 2009). However, these family firms have a higher book value

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weight relative to non-family firms (*BV*FF*GOV* is significant 2007 and 2009). The exception is 2008 where family firms with good governance do not exhibit any additional positive slope weight for book value. These results suggest that family firms with higher governance had a lower book value weight but higher earnings weight in 2008 during the GFC. Finally, firm value is negatively related to age in 2007 and 2008 but unrelated to size and leverage in any of the periods.

These results suggest that, during the GFC, earnings rather than book value drove the market value for good-governance firms. This is consistent with the accruals quality-governance-GFC relation identified by Aldamen and Duncan (2016). Family firms had a higher emphasis on earnings as well, but this was reduced for family firms with good governance except in 2008. Noting that family firm earnings were higher (fewer loss makers) than non-family firms. Conversely the value for low governance firms emphasised book value more than earnings.

Family firms' focus on preserving SEW might help explain the result for family firms. During periods of non-financial distress, higher-level governance could translate into less family control, as various processes are put in place to monitor and control managerial behaviour, putting downward pressure on SEW. However, during times of financial distress, these same governance measures might have an opposite effect, increasing chances of survival for these firms. Consistent with Lohe and Calabrò (2017), governance helps in distressed periods in our case increasing the earnings coefficient relative to the governance effect in 2007. However, this applies to all well governed firms and is not unique to the family firms. The positive governance effect is lower for family firms in all years for the price model.

We also explore the relationship between Tobin's *Q* and earnings, governance, and the impact of family control in a final levels specification - Model (3). The results in Table 4 show that Tobin's *Q* is negatively related to profitability (*ROA*) at the 1% significance level for the years 2007 and 2009 but not 2008 during the GFC. This negative relation is amplified for family-controlled firms in 2009 (*ROA*FF* is significantly negative in 2009). However, Tobin's *Q* is positively related to profitability for firms with good governance during the crisis in 2008 and coming out of the crisis in 2009. Profitable firms with good governance are valued more highly. The negative family firm profitability weight in 2009 (significant at

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the 5% level) was partially offset by a significantly positive coefficient for profitability for firms with good governance (*ROA*GOV*). However, there is no combined profitability-family-governance effect (*ROA*FF*GOV* is not significant). These results might partly be explained by unreported *ANOVA* analysis that shows that firms with higher governance have lower Tobin's *Q* or market to book ratio but are significantly more profitable (higher *ROA*, earnings per share and aggregate earnings over time and also less likely to have a loss).

4.3 Robustness Analysis

We find a significantly higher proportion of non-family firms repeatedly report losses (negative EBIT) in 2007 and again during the GFC period (see Table 3, X_t). Fifty percent of non-family firms are repeat loss makers whereas only thirty-one percent of family firms are repeat loss makers. This suggests the value drivers might be different for family and non-family firms. To further explore the role of family control and governance in valuation during the GFC we re-estimate the three valuation models separately for the loss making and non-loss making firms. We define loss makers as those firms that reported a loss in 2007 and again in either or both 2008 and 2009. We code the variable *LOSS* as one for loss markers and zero otherwise and split the sample based on this variable. Table 5 reports the returns Model (1) re-estimated for each year with separate coefficients for loss makers and non-loss makers. The market return for loss makers is positively related to earnings in 2007 at the 10% significance level but negatively related to earnings in 2009 at the 5% significance level. The negative returns relation for loss makers in 2009 is less for family and good-governance firms with both *X*FF* and *X*GOV* having significant positive impacts on returns. There is no significant accounting-market performance relation for non-loss-making firms. These results present an inconsistent pattern when compared to earlier results reported in Table 4. This is potentially due to the simplified earnings-only focus of Model (1). In unreported analysis we also run this model with change in earnings as well as earnings and associated slope dummies for

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family and governance status. We find that the change in earnings variable was not significant, no models exhibited significant explanatory power and the tenor of the results was largely unchanged.

Insert Table 5 about here

Table 6 reports the re-estimated price Model (2) for loss makers versus non-loss makers. The valuation weights are quite different for loss maker relative to profitable firms. Share prices for loss making companies are negatively related to earnings (which are losses) in 2007 at the 5% significance level but are not significantly related to earnings in 2008 or 2009. However, the value of loss makers is positively related to book value for the period 2007-09 at the 1% significance level. This indicates that loss makers are increasingly valued on book value between 2007 and 2009 with reducing earnings and increasing book value weights. This effect is more pronounced for family firms with the *X*FF* coefficient negative in each year and the book value coefficient (*BV*FF*) positive in 2008. This suggests that loss making family firms are valued even less on earnings and more on book value in 2008. Good governance reduced the book value weight (significant in 2008) but did not increase the earnings weight for loss makers.

In contrast, the share price for non-loss makers is positively related to earnings at the 1% significance level for 2007 and 2008 and at the 5% significance level for 2009. Furthermore, share price is also positively related to book value in 2007 and 2009 (significant at 5% level or better). Non-loss making family firms and firms with higher governance were valued more on earnings and less on book value. However, the positive impact of governance and family control were lower where both factors were present (*X*FF*GOV* is negative). The model explained a lot more of the value of profitable firms than for loss makers reflecting the role of expected future earnings not just book value and capitalised current earnings in valuation.

Insert Table 6 about here

We find a similar pattern of results for loss versus non-loss firms for Tobin's *Q* Model (3) reported in Table 7. Tobin's *Q* for loss making firms is negatively related to profitability at the 1% significance level for the period 2007-09 and negatively related to firm size but only for 2007. However, for non-loss

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makers, Tobin's *Q* is positively related to profitability at the 1% significance level for 2007 and 2009. Furthermore, there is a strong positive impact by profitability on Tobin's *Q* for non-loss-making family firms and firms with good governance. However, these factors are offset to some extent by the profitability impact for family firms with good governance (*ROA*FF*GOV* is significantly negative in all years). For loss makers, profitability (*ROA*) is negatively related to the premium over book value reflected in Tobin's *Q*. The converse is true for non-loss makers. Profitability, governance and family control all positively impact Tobin's *Q*. Although these effects are lower for family firms with good governance. The evidence for Model (3) is consistent with the initial analysis and Model (2) and suggests earnings and book value have a role in valuation and there is more emphasis on earnings for family firms and firms with higher governance.

Insert Table 7 about here

Finally, we consider the role of non-family block holders. Lins *et al.* (2013) find some evidence that firms controlled by non-family block holders outperformed the market in emerging markets but not developed markets. We test for this effect by re-estimating our three models for a sub-sample of firms where a family or non-family insider controlled 20% or more of the equity. The results for this analysis are reported in Table 8. The return Model (1) is insignificant as before. The results for Models (2) and (3) support the earlier analysis that family control has a positive impact on valuation over and above the impact of good governance. However, we again find that family control and good governance combined slightly offset the impact of each individual factor.

Insert Table 8 about here

5. Discussion and Conclusion

We test the impact of family control and corporate governance on the accounting performance and market performance during the GFC. The results suggest that before and during the GFC, family-firm valuation placed a higher positive weight on earnings and a lower weight on book value relative to non-family firms. We find a higher weight on earnings for firms with good governance suggesting good governance leads to a perception of higher quality earnings. However, contrary to our expectations, family

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firms with good governance had a negative impact on the earnings coefficient. That is, investors do not perceive earnings of family firms with good governance as more value relevant than for non-family firms, but they may be less value relevant particularly during the GFC. This is consistent with the prior work of Lemmon and Lins' (2003) study of family ownership on firm performance during the AFC of July 1997.

We find the market performance of good-governance firms relies more on earnings than on the balance sheet. Similarly, the market performance of family firms is more reliant on earnings however, when good governance is in place, the weight shifts from earnings to book value for family firms. This may be because the market perceives it is easier to manipulate earnings rather than the balance sheet numbers in times of crisis. It also implies that family control and good governance are substitute but not complementary control mechanisms in firms. Contrary to prior studies (McConnell and Servaes 1990; Morck, Shleifer, and Vishny 1988), we do not find that family firms display a significantly higher Tobin's *Q* than non-family firms. Firms displaying *Q*'s greater than unity are judged as using scarce resources effectively and those with *Q*'s less than unity as using resources poorly (Lewellen and Badrinath 1997). Family firms are no more efficient during the GFC than were other firms. We do find that profitability drives the level of Tobin's *Q* (a negative relationship driven by the loss makers in the sample) and that this relationship is less for family and good-governance firms. If Tobin's *Q* is a proxy for growth options (expected future growth) then these results suggest that family firms and firms with better governance have lower growth options.

We conclude that earnings for family firms, with good governance, are perceived as less reliable than non-family firms in times of crisis. Governance has a positive impact, increasing the earnings weight and reducing the book value weights in valuation model, but for family firms with good governance the positive earnings weight is reduced relative to non-family firms. This result is consistent with the market expecting sub-optimal decisions by family firms aimed at preserving their SEW rather than maximising firm value. While we find a positive governance effect, consistent with the evidence of Lohe and Calabrò (2017), the governance impact is not as strong as for non-family firms.

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The follow-on research question from this study is whether family firms can make changes to their governance structure that would reduce the perception that expropriations or SEW preservation occurs during times of financial crisis. Specifically, would ensuring the Chair of the Board and the Chair of the Audit Committee are not members of the "family" increase the perception of the independence of the governance structures?

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TABLE 1: Sample

Nonfinancial Firms	2293	
Cases with no Revenue (non-trading firms)	1022	
Missing Data: Governance, Value, Age, Financial and Performance	615	
Extreme Outlier Firms Excluded	11	
Final Sample	645	
Family Firms	123	(19%)
Non-Family Firms	522	(81%)

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TABLE 2: Corporate Governance Measures

Variable Name	Variable Description
BDSIZE	Number of directors on the board.
INDP	Proportion of non-executive independent directors on the board.
BDMEET	Number of board meetings.
DUAL	One if the CEO is separate from chair of the board, and zero otherwise.
NOM	One if the company has a nomination committee, and zero otherwise.
REM	One if company has a remuneration committee, and zero otherwise.
AUDCHRT	One if the company has an audit committee charter, and zero otherwise.
AUDSIZE	Number of directors on audit committee.
AUDIND	Proportion of non-executive independent members on the audit committee.
AUDEXP	Proportion of audit committee members with accounting and finance qualifications.
AUDMEET	Number of audit committee meetings.
AUDITOR	One if the auditor is a Big Four, and zero otherwise.

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TABLE 3: Descriptive Statistics

		Pooled		*Family Firms*		*Non-Family Firms*		*ANOVA*[a]		
Variable	*Definition/Period*	*Mean*	*Std.Dev.*	*Mean*	*Std.Dev.*	*Mean*	*Std.Dev.*	*F*-stat	*Sig.*	
P_{it}	Price per share, t = 2007	2.22	5.07	2.38	4.39	2.19	5.23	1.05	0.306	
	t = 2008	1.79	4.71	1.65	3.24	1.82	5.00	0.85	0.357	
	t = 2009	1.35	3.98	1.29	2.73	1.36	4.22	0.07	0.788	
R_{it}	Return = $(P_t-P_{t-1})/P_{t-1}$, t = 2007	0.90	1.81	0.75	1.14	0.94	1.93	0.15	0.702	
	t = 2008	-0.14	1.09	-0.23	0.77	-0.13	1.15	0.12	0.727	
	t = 2009	-0.17	1.27	-0.15	0.96	-0.18	1.33	0.03	0.855	
$TobinQ_t$	Tobin's *Q* = (Market value equity + Short term debt + Long term debt)/Total Assets, t = 2007	3.18	3.78	2.98	3.38	3.23	3.87	0.43	0.510	
	t = 2008	2.03	2.65	1.84	2.13	2.07	2.76	0.74	0.390	
	t = 2009	1.69	2.80	1.65	2.54	1.70	2.86	0.03	0.853	
X_t	EBIT/Weighted number of shares, t = 2007	0.13	0.38	0.16	0.34	0.12	0.38	0.99	0.320	
	t = 2008	0.15	0.43	0.17	0.37	0.14	0.44	0.44	0.506	
	t = 2009	0.13	0.44	0.17	0.37	0.13	0.45	1.02	0.313	
BV_t	Book Value Net Assets/Weighted shares, t = 2007	0.74	1.31	0.91	1.64	0.70	1.22	2.41	0.121	
	t = 2008	0.81	1.83	0.86	1.44	0.80	1.91	0.10	0.754	
	t = 2009	0.83	1.77	0.94	1.54	0.81	1.82	0.51	0.478	
ROA_t	Return on Assets, t = 2007	-0.20	0.97	-0.11	0.78	-0.22	1.01	1.42	0.234	
	t = 2008	-0.36	2.46	-0.17	0.72	-0.41	2.72	0.92	0.339	
	t = 2009	-0.17	0.66	-0.16	1.06	-0.17	0.52	0.02	0.891	
$SIZE_{it}$	Log of Total Assets, t = 2007	7.63	0.86	7.62	0.79	7.64	0.88	0.06	0.813	
	t = 2008	7.72	0.87	7.68	0.78	7.73	0.89	0.37	0.545	
	t = 2009	7.70	0.93	7.66	0.87	7.70	0.95	0.24	0.625	
LEV_{it}	Leverage = Total Debt to Total Assets, t = 2007	0.33	0.24	0.35	0.22	0.33	0.24	1.26	0.261	
	t = 2008	0.35	0.27	0.39	0.26	0.35	0.27	2.84	0.093	*
	t = 2009	0.39	0.38	0.43	0.41	0.38	0.37	2.13	0.145	
AGE_{it}	Number of years since incorporation at 2007	20.48	17.59	18.70	14.71	20.90	18.19	1.56	0.212	
	t = 2008	21.48	17.59	19.70	14.71	21.90	18.19	1.56	0.212	
	t = 2009	22.48	17.59	20.70	14.71	22.90	18.19	1.56	0.212	
LOSS	Loss in 2007 and 2008 or 2009 =1, 0 otherwise.	0.47	0.50	0.31	0.46	0.50	0.50	15.21	0.000	***
GOV^+	Top quartile *GOV* =1, 0 otherwise, t = 2007	0.28	0.45	0.24	0.43	0.30	0.46	1.46	0.227	
GovIndex	Governance Index 0 to 12, t = 2007	5.37	3.08	5.48	2.87	5.36	3.13	0.160	0.690	

Notes: n = 645: 123 family firms; 522 non-family firms. ASX listed during the financial years of 2007-2009. All variables are measured at fiscal year-end for period indicated.

[a] *ANOVA* compares family and non-family firms for all variables. One tailed t-stat: ***, **, * Significant at 1, 5, and 10 percent levels respectively.

[+] Note that the pooled percentage of firms with good governance is 28% and higher than 25% a quartile split would imply due to the underlying index being a nominal scale and hence the cut for the quartile was between 8 and 9 on the 12-point scale.

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TABLE 4: Family Control, Governance and Value Drivers

	(1) Return			(2) Price			(3) Tobin's *Q*		
Variables	2007	2008	2009	2007	2008	2009	2007	2008	2009
X	-0.074	0.113	-0.063	5.392 ***	3.675 ***	1.493 ***			
	(-0.140)	(0.400)	(-0.210)	(7.140)	(5.260)	(2.990)			
*X*FF*	-0.029	-0.172	0.074	4.833 ***	0.193	2.800 **			
	(-0.040)	(-0.400)	(0.150)	(3.070)	(0.120)	(2.320)			
*X*GOV*	-0.103	-0.168	0.088	7.792 ***	7.438 ***	8.134 ***			
	(-0.190)	(-0.580)	(0.270)	(8.730)	(9.370)	(13.300)			
*X*FF*GOV*	-0.016	0.042	0.266	-13.858 ***	-8.081 ***	-9.473 ***			
	(-0.020)	(0.070)	(0.410)	(-6.090)	(-4.040)	(-5.810)			
BV				1.211 ***	1.040 ***	0.985 ***			
				(5.370)	(5.440)	(6.550)			
*BV*FF*				-0.694	0.610	-0.115			
				(-1.410)	(1.260)	(-0.340)			
*BV*GOV*				-1.143 ***	-1.089 ***	-1.153 ***			
				(-4.580)	(-5.370)	(-7.080)			
*BV*FF*GOV*				1.800 ***	0.105	0.696 *			
				(3.170)	(0.190)	(1.740)			
ROA							-0.572 ***	0.001	-0.532 ***
							(-3.740)	(0.040)	(-3.000)
*ROA*FF*							-0.049	-0.345	-0.773 **
							(-0.060)	(-1.120)	(-2.180)
*ROA*GOV*							1.079	1.624 ***	1.115 *
							(0.950)	(2.020)	(1.910)
*ROA*FF*GOV*							2.493	0.281	0.225
							(0.580)	(0.210)	(0.170)
SIZE	-0.102	0.039	0.052	0.257	0.127	0.138	-0.881 ***	-0.898 ***	-0.683 ***
	(-0.890)	(0.610)	(0.790)	(1.590)	(0.950)	(1.290)	(-4.280)	(-6.690)	(-5.220)
LEV	-0.389	-0.287	-0.268	-0.516	-0.249	-0.154	-1.119	1.604 ***	1.480 ***
	(-1.020)	(-1.570)	(-1.920)	(-1.080)	(-0.680)	(-0.730)	(-1.480)	(3.660)	(5.140)
AGE	0.000	0.006	-0.003	-0.022 ***	-0.014 ***	-0.001	-0.003	0.007	0.003
	(0.030)	(2.110)	(-0.870)	(-3.990)	(-2.580)	(-0.290)	(-0.370)	(1.170)	(0.530)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Overall R^2	0.011	0.017	0.005	0.812	0.787	0.770	0.125	0.070	0.154
F-stat	0.85	1.13	0.88	241.2 ***	215.7 ***	194.9 ***	8.77 ***	7.91 ***	14.7 ***

Notes: All models n= 645. Two tail *t*-stat in parentheses: ***, **, * Significant at 1, 5, and 10 percent levels respectively. Intercept included but not reported. Robust standard errors. See Table 3 for variable definitions.

Model 1 is a returns model: $R_{it} = \beta_0 + \beta_1 X_{it} + \beta_2 X_{it} FF_i + \beta_3 X_{it} GOV_i + \beta_4 Control_{ji} + \varepsilon_i$

Model 2 is a levels model: $P_{it} = \beta_0 + \beta_1 X_{it} + \beta_2 X_{it} FF_i + \beta_3 X_{it} GOV_i + \beta_4 BV_{it} + \beta_5 BV_{it} FF_i + \beta_6 BV_{it} GOV_i + \beta_7 Control_{ji} + \varepsilon_i$

Model 3 is a levels model: $TobinQ_{it} = \beta_0 + \beta_1 ROA_{it} + \beta_2 ROA_{it} FF_i + \beta_3 ROA_{it} GOV_i + \beta_4 Control_{ji} + \varepsilon_i$

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TABLE 5: Returns Model for Loss Makers versus Non-Loss Makers

	Loss Makers						Non-Loss Makers					
Variables	2007		2008		2009		2007		2008		2009	
X	3.829	*	0.310		-2.044	**	-0.020		0.247		0.050	
	(1.700)		(0.400)		(-2.410)		(-0.040)		(1.060)		(0.130)	
*X*FF*	2.516		-0.694		8.812	***	-0.232		-0.213		-0.038	
	(0.530)		(-0.140)		(2.680)		(-0.340)		(-0.660)		(-0.060)	
*X*GOV*	-2.154		1.762		3.598	*	0.166		-0.202		-0.031	
	(-0.560)		(0.560)		(1.950)		(0.350)		(0.860)		(-0.080)	
*X*FF*GOV*	-3.966		-2.717		-5.523		0.145		0.173		0.277	
	(-0.310)		(-0.140)		(-1.290)		(0.160)		(0.410)		(0.350)	
SIZE	0.548		0.260	*	0.060		-0.362	***	-0.063		0.115	
	(2.290)		(1.860)		(0.740)		(-2.680)		(-0.950)		(0.960)	
LEV	0.261		-0.017		-0.119		-0.609		-0.296		-0.585	
	(0.410)		(-0.050)		(-1.050)		(-1.290)		(-1.430)		(-1.580)	
AGE	0.004		0.008		-0.004		-0.002		0.005	**	-0.002	
	(0.460)		(1.210)		(-0.890)		(-0.380)		(2.280)		(-0.350)	
Industry Fixed Effects	Yes		Yes		Yes		Yes		Yes		Yes	
Adjusted R^2	0.0348		0.0306		0.0539		0.0341		0.037		0.0095	
F-stat	1.26		0.8		2.81	***	2.38	**	1.35		0.57	

Notes: Loss Makers n= 300, Non-Loss Makers n=345. Two tail *t*-stat in parentheses: ***, **, * Significant at 1, 5, and 10 percent levels respectively. Intercept included but not reported. Robust standard errors. See Table 3 for variable definitions.
Returns model: $R_{it} = \beta_0 + \beta_1 X_{it} + \beta_2 X_{it} FF_i + \beta_3 X_{it} GOV_i + \beta_4 Control_{ji} + \varepsilon_i$

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TABLE 6: Price Model for Loss Makers versus Non-Loss Makers

	Loss Makers			Non-Loss Makers		
Variables	2007	2008	2009	2007	2008	2009
X	-2.420 **	-0.072	-0.332	7.028 ***	6.295 ***	1.652 **
	(-2.060)	(-0.140)	(-0.490)	(6.220)	(5.500)	(2.400)
*X*FF*	-6.398 **	-26.305 ***	-16.334 ***	6.769 ***	2.247	4.524 **
	(-2.020)	(-6.180)	(-6.330)	(2.840)	(0.970)	(2.340)
*X*GOV*	-0.845	-2.811	1.083	6.631 ***	5.156 ***	8.121 ***
	(-0.300)	(-1.220)	(0.650)	(5.110)	(4.170)	(9.770)
*X*FF*GOV*	5.480	106.481 ***	11.766 **	-16.337 ***	-10.217 ***	-11.504 ***
	(0.490)	(4.510)	(2.350)	(-5.050)	(-3.640)	(-4.800)
BV	1.088 ***	2.324 ***	1.726 ***	1.014 ***	0.596 **	0.948 ***
	(3.080)	(6.240)	(5.410)	(3.140)	(2.160)	(4.580)
*BV*FF*	-0.286	2.283 ***	0.073	-1.563 **	-0.466	-0.732
	(-0.310)	(3.230)	(0.220)	(-2.110)	(-0.660)	(-1.280)
*BV*GOV*	-0.874	-1.335 **	-0.125	-0.960 ***	-0.657 **	-1.125 ***
	(-1.080)	(-2.240)	(-0.230)	(-2.680)	(-2.270)	(-5.080)
*BV*FF*GOV*	NA#	NA#	NA#	2.738 ***	1.215	1.344 **
				(3.300)	(1.570)	(2.130)
SIZE	0.356 ***	0.213 *	0.143 *	0.165	-0.053	0.049
	(3.060)	(1.860)	(1.800)	(0.580)	(-0.220)	(0.240)
LEV	0.094	0.566 ***	0.076	-0.532	-1.114	-0.474
	(0.350)	(2.740)	(0.860)	(-0.590)	(-1.500)	(-0.760)
AGE	-0.006	0.000	-0.003	-0.026 ***	-0.015 *	0.001
	(-1.430)	(-0.070)	(-0.910)	(-3.160)	(-1.890)	(0.100)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.291	0.545	0.432	0.824	0.813	0.778
F-stat	11.71 ***	32.4 ***	21.19 ***	137.65 ***	127.43 ***	103.07 ***

Notes: Loss Makers n= 300, Non-Loss Makers n=345. Two tail *t*-stat in parentheses: ***, **, * Significant at 1, 5, and 10 percent levels respectively. Intercept included but not reported. Robust standard errors. See Table 3 for variable definitions.

Price model: $P_{it} = \beta_0 + \beta_1 X_{it} + \beta_2 X_{it} FF_i + \beta_3 X_{it} GOV_i + \beta_4 BV_{it} + \beta_5 BV_{it} FF_i + \beta_6 BV_{it} GOV_i + \beta_7 Control_{ji} + \varepsilon_i$

99% of the loss makers are non-family with poor governance (only 1 loss maker was a family firm with good governance) thus due to lack of variance inestimable.

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TABLE 7: Tobin's *Q* Model Loss Makers versus Non-Loss Makers

	Loss Makers			Non-Loss Makers		
Variables	2007	2008	2009	2007	2008	2009
ROA	-0.455 **	0.022	-0.322	2.158 ***	0.069	0.991 ***
	(-2.160)	(0.380)	(-1.220)	(4.500)	(1.050)	(3.820)
*ROA*FF*	-1.220	-0.228	-0.665	8.498 ***	2.767 ***	0.738 ***
	(-0.980)	(-0.540)	(-1.220)	(7.210)	(4.080)	(2.710)
*ROA*GOV*	-0.247	0.651	0.816	4.413 ***	4.581 ***	3.178 ***
	(-0.140)	(0.530)	(0.940)	(3.900)	(5.260)	(5.990)
*ROA*FF*GOV*	-9.934	-23.526	11.680	-8.347 ***	-7.457 ***	-5.272 ***
	(-0.080)	(-0.110)	(0.280)	(-3.370)	(-6.050)	(-8.010)
SIZE	-1.734 ***	-1.781 ***	-1.533 ***	-0.340 ***	-0.085	-0.151 ***
	(-3.220)	(-5.170)	(-4.350)	(-2.550)	(-0.910)	(-2.840)
LEV	-0.482	2.817 ***	1.514 ***	-1.213 *	-0.535	0.068
	(-0.330)	(3.630)	(3.150)	(-2.300)	(-1.550)	(0.380)
AGE	0.005	0.023	0.002	-0.009 **	-0.003	-0.002
	(0.210)	(1.480)	(0.120)	(-1.920)	(-0.770)	(-0.920)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.077	0.107	0.170	0.341	0.141	0.211
F-stat	3.25 ***	6.71 ***	7.42 ***	21.13 ***	6.75 ***	12.07 ***

Notes: Loss Makers n= 300, Non-Loss Makers n=345. Two tail *t*-stat in parentheses: ***, **, * Significant at 1, 5, and 10 percent levels respectively. Intercept included but not reported. Robust standard errors. See Table 3 for variable definitions.

Tobin's Q model: $TobinQ_{it} = \beta_0 + \beta_1 ROA_{it} + \beta_2 ROA_{it} FF_i + \beta_3 ROA_{it} GOV_i + \beta_4 Control_{ji} + \varepsilon_i$

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TABLE 8: Inside Block holders Governance, Family Control and Valuation

	(1) Return			(2) Price			(3) Tobin's *Q*		
Variables	2007	2008	2009	2007	2008	2009	2007	2008	2009
X	-0.620	0.413	0.010	4.748 **	3.432 *	0.448			
	(-0.660)	(0.920)	(0.040)	(2.570)	(1.940)	(0.900)			
*X*FF*	0.561	-0.439	0.043	7.721 ***	0.908	5.720 ***			
	(0.560)	(-0.900)	(0.120)	(3.350)	(0.380)	(5.970)			
*X*GOV*	1.124	-0.543	-0.054	5.595 *	3.256	8.320 ***			
	(1.070)	(-1.130)	(-0.150)	(1.960)	(1.290)	(7.340)			
*X*FF*GOV*	-1.072	0.301	0.656	-18.821 ***	-5.871 *	-13.946 ***			
	(-0.820)	(0.480)	(1.170)	(-5.230)	(-1.750)	(-8.550)			
BV				0.790 *	0.505	0.703 ***			
				(1.930)	(1.520)	(4.150)			
*BV*FF*				-1.104 *	0.946	-0.509 *			
				(-1.880)	(1.580)	(-1.800)			
*BV*GOV*				0.150	0.811	-1.073 ***			
				(0.230)	(1.260)	(-3.480)			
*BV*FF*GOV*				1.773 **	-1.554 *	1.321 ***			
				(2.140)	(-1.790)	(3.190)			
ROA							-0.821 **	-0.586 *	0.124
							(-2.130)	(-1.740)	(0.590)
*ROA*FF*							1.002	-0.299	-2.263 ***
							(1.000)	(-1.060)	(-6.970)
*ROA*GOV*							4.378	1.341	4.502 **
							(1.380)	(0.730)	(2.410)
*ROA*FF*GOV*							-1.863	7.659 **	1.179
							(-0.340)	(2.330)	(0.390)
SIZE	-0.107	0.070	0.011	0.595 **	0.287	0.259 *	-1.058 ***	-0.345	-0.575 ***
	(-0.650)	(0.850)	(0.140)	(2.390)	(1.080)	(1.990)	(-2.840)	(-1.570)	(-3.650)
LEV	-0.968	-0.164	-0.074	-1.019	-0.171	-0.184	-2.804 **	-1.141 *	1.319 ***
	(-1.940)	(-0.670)	(-0.480)	(-1.430)	(-0.240)	(-0.760)	(-2.190)	(-1.670)	(3.890)
AGE	0.001	0.005	-0.002	-0.013	-0.007	-0.001	-0.026 *	-0.003	-0.004
	(0.200)	(1.360)	(-0.630)	(-1.450)	(-0.700)	(-0.220)	(-1.680)	(-0.370)	(-0.560)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.0206	0.0212	0.0215	0.7807	0.644	0.7534	0.1612	0.1572	0.3695
F	0.89	0.71	0.58	74.35 ***	39.8 ***	62.15 ***	4.49 ***	3.97 ***	19.99 ***

Notes: Blockholder firms with ownership greater than or equal to 20%, n= 237: 96 Family Firms and 141 non-Family Firms. Two tail *t*-stat in parentheses: ***, **, * Significant at 1, 5, and 10 percent levels respectively. Intercept included but not reported. Robust standard errors. See Table 3 for variable definitions.

Model 1 is a returns model: $R_{it} = \beta_0 + \beta_1 X_{it} + \beta_2 X_{it} FF_i + \beta_3 X_{it} GOV_i + \beta_4 Control_{ji} + \varepsilon_i$

Model 2 is a levels model: $P_{it} = \beta_0 + \beta_1 X_{it} + \beta_2 X_{it} FF_i + \beta_3 X_{it} GOV_i + \beta_4 BV_{it} + \beta_5 BV_{it} FF_i + \beta_6 BV_{it} GOV_i + \beta_7 Control_{ji} + \varepsilon_i$

Model 3 is a levels model: $TobinQ_{it} = \beta_0 + \beta_1 ROA_{it} + \beta_2 ROA_{it} FF_i + \beta_3 ROA_{it} GOV_i + \beta_4 Control_{ji} + \varepsilon_i$

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