# The Global Financial Crisis, Family Control, and Dividend Policy*

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**Abstract**

Using Carney and Child's (2013) newly collected data on the ultimate ownership structure of publicly traded firms in nine East Asian economies, we find that family control is negatively related to the amount of dividends paid out of earnings. We further find that the negative relation between family firms and dividend policy is present only in firms with high agency problems. We also show that family firms are less (more) likely to increase (omit) dividends than nonfamily firms, even when we condition on changes in firm profitability. Finally, we find that the negative association between family firms and dividend policy is more pronounced during the recent global financial crisis. Taken together, our evidence suggests that dividend policy in East Asian firms is indicative of agency problems, and that controlling families have incentives to expropriate more firm resources during crises than in normal times.

**February 2015**

**JEL Classification Codes**: G32, G35
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* We thank an anonymous reviewer, Ruiyuan Chen, Dusan Isakov, Raghavendra Rau (editor), and Jungwon Suh for constructive comments and suggestions, and Richard Carney for providing the ultimate ownership data. We appreciate generous financial support from Canada's Social Sciences and Humanities Research Council and excellent research assistance from He Wang.

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# The Global Financial Crisis, Family Control, and Dividend Policy

**Abstract**

Using Carney and Child's (2013) newly collected data on the ultimate ownership structure of publicly traded firms in nine East Asian economies, we find that family control is negatively related to the amount of dividends paid out of earnings. We further find that the negative relation between family firms and dividend policy is present only in firms with high agency problems. We also show that family firms are less (more) likely to increase (omit) dividends than nonfamily firms, even when we condition on changes in firm profitability. Finally, we find that the negative association between family firms and dividend policy is more pronounced during the recent global financial crisis. Taken together, our evidence suggests that dividend policy in East Asian firms is indicative of agency problems, and that controlling families have incentives to expropriate more firm resources during crises than in normal times.

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## 1. Introduction

Using a cross-country setting, in this paper we examine how family control affects dividend policy, particularly during an unexpected liquidity shock. Theory suggests that family owners, as large shareholders, may act as monitors and thus reduce agency and information asymmetry problems stemming from the atomized structure of corporate shareholdings (Shleifer and Vishny, 1986). However, this may not hold outside the U.S., where institutions provide minority shareholders less protection and hence expropriation is more likely to take place among family firms (Almeida and Wolfenzon, 2006).

Prior literature on the link between dividends and family control generally focuses on a single country and finds mixed results. For instance, prior work shows that family firms tend to pay lower dividends than nonfamily firms in Austria (Gugler, 2003), Germany (Gugler and Yurtoglu, 2003), Hong Kong[1] (Chen, Cheung, Stouraitis, and Wong, 2005), and the U.S. (Hu, Wang, and Zhang, 2008), while Setia-Atmaja, Tanewski, and Skully (2009) and Isakov and Weisskopf (2015) find that family firms exhibit higher dividend payouts in Australia and Switzerland, respectively, and Pindado and Torre (2008) find that family ownership is irrelevant to dividends in Spain. The literature has little to say, however, about cross-country variation in the association between dividends and family ownership.[2] Given the prevalence of family firms around the globe (Carney and Child, 2013; Anderson, Duru, and Reeb, 2009, 2012), examining the dividend policy of family firms in a cross-country setting can improve our understanding of

[1] As in Carney and Child (2013), we refer to Hong Kong as a country for expositional convenience.

[2] Using data from Faccio, Lang, and Young (2001), Pindado, Requejo, and de la Torre (2012) find that, in Eurozone countries, family firms distribute higher and more stable dividends than nonfamily firms. A large body of literature provides much insight on the impact of family control on firms' investment decisions (Anderson et al., 2012; Masulis, Pham, and Zein, 2011), cost of equity capital (Boubakri, Guedhami, and Mishra, 2010), agency cost of debt (Anderson, Mansi, and Reeb, 2003), corporate disclosure (Ali, Chen, and Radhakrishnan, 2007), earnings quality (Wang, 2006), and corporate performance (Anderson and Reeb, 2003; Villalonga and Amit, 2006; among others).

the value-relevance of family control, adding insights to mixed evidence at the single-country level.

In this study we use Carney and Child's (2013) newly collected data on the ultimate ownership structure of publicly traded firms in nine East Asian countries to investigate differences in dividend policy between family and nonfamily firms around the 2008-2009 global financial crisis. Family firms in East Asia provide an ideal setting for our purposes because (1) family control is the most common form of ownership across East Asian economies (Carney and Child, 2013), (2) dividends appear to exacerbate agency problems in Asia (Faccio, Lang, and Young, 2001), and (3) a focus on East Asia allows us to examine the extent to which governance reforms following the 1997 East Asian financial crisis (e.g., Mitton, 2002) influence family firms' decisions more than a decade later.

Concentrated ownership, crony capitalism, excessive debt exposure, and weak governance standards contributed to the 1997 East Asian financial crisis (e.g., Claessens, Djankov, and Lang, 2000; Johnson, Boone, Breach, and Friedman, 2000). In the aftermath of this crisis, East Asian governments implemented various governance reforms to restore investor confidence and strengthen their economies (Walter, 2008; Carney, 2010).[3] Opposition from the private sector, however, has resulted in only "modest" changes in governance in Southeast Asia (Wu, 2005: 17; see also Walter, 2008; Carney, 2010; Carney and Child, 2013). Other things being equal, if on balance the governance reforms in East Asia have improved governance practices, one would expect fewer incentives for expropriation by controlling family owners, in which

[3] Malaysia, for example, adopted a new Code of Corporate Governance that enhances the informativeness of listed firms' financial statements (e.g., compliance with International Accounting Standards) and requires that at least one-third of publicly listed firms' board members be independent (Wu, 2005). The Malaysian authorities further created the High Level Finance Committee on Corporate Governance and the Malaysian Institute of Corporate Governance to promote high corporate governance standards (Liew, 2006).

case dividend policy in family firms should be indistinguishable from that in nonfamily firms. However, incentives to expropriate rents are exacerbated during a crisis (Johnson et al., 2000). Thus, whether family firms used their control to expropriate outside investors during the 2008-2009 financial crisis is an open question.

To examine the effect of family control on dividend policy around the recent financial crisis, we use 4,285 firm-year observations representing 923 unique firms from nine countries (Indonesia, Japan, Hong Kong, Malaysia, Philippines, Singapore, Thailand, South Korea, and Taiwan) over the 2006-2010 period. We first investigate the extent to which dividend payouts of family firms differ from those of nonfamily firms. We find that across East Asian economies, family firms are associated with lower dividend payouts than nonfamily firms. This finding is robust to extensive sensitivity tests. In particular, our results remain unchanged when we employ propensity score matching, use different samples, and consider alternative proxies for dividend payout policy.

We next test whether the negative relation between family firms and dividend policy is driven by agency problems, where we use firms' free cash flows to proxy for agency problems. We find that the negative association between family control and dividend payout holds only for firms with more pronounced agency problems. In addition, we examine the impact of family control on changes in dividend policy. We find that family firms are less likely to increase dividends, more likely to decrease dividends, and more likely to omit dividends. To shed further light on these relationships, we examine the impact of changes in profitability on changes in dividend policy in family firms. Interestingly, we find that when profitability increases, family firms are less likely to increase dividends and more likely to omit dividends. These findings are consistent with the argument that family firms are associated with more

pronounced agency problems, and do not support the alternative (i.e., bonding and signaling) explanation of dividend policy in family-controlled firms.

To further improve our understanding of the role of agency problems in family firms as revealed by their dividend policy, we examine the effect of the 2008-2009 financial crisis on the link between family control and dividend policy. The crisis is an appropriate setting to investigate the impact of an unanticipated financing shock on corporate behavior as it was not the result of a decline in corporate business fundamentals (Almeida, Campello, Laranjeira, and Weisbenner, 2012). Because family firms tend to have control over management and hold a highly undiversified investment in the firm, they are subject to significant idiosyncratic risk (Anderson and Reeb, 2003; Faccio, Marchica, and Mura, 2011). As a result, the survival of a family empire can be threatened by unexpected liquidity shocks (Lins et al., 2013). Indeed, Lins, Volpin, and Wagner (2013) argue that an exogenous financial shock "moves firms out of equilibrium in a way that magnifies both the benefits and costs of family control" (p. 2584). Consistent with the private benefits of control hypothesis, we find that the negative association between family-controlled firms and dividend payout ratios is more pronounced during the recent financial crisis. This result complements Lins, Volpin, and Wagner (2013), who find that controlling families tend to cut productive investment or divert resources to a greater extent during financial crises than in normal times. This result also lends support to Masulis et al. (2011), who show that family firms use their resources more efficiently under normal business conditions.

We complete our analysis by examining how family firms employ the resources that they do not distribute to shareholders. One might argue that the negative association between family firms and dividend payouts is due to a precautionary motive to preserve corporate

resources. For instance, firms with increased profitability may build their cash reserves to alleviate financing frictions (Keynes, 1936) and buffer investments from temporary financing shocks (e.g., Opler, Pinkowitz, Stulz, and Williamson, 1999; Harford, Mansi, and Maxwell, 2008; Brown and Petersen, 2011). To the extent the precautionary motive holds, family firms with increased profitability are expected to have higher cash reserves and investment. Our results, however, indicate that when profitability increases, family firms reduce cash holdings and cut investment expenditures. Together with our main evidence that family firms pay lower dividends, these findings suggest that private benefits of control play a non-negligible role in explaining the dividend policy of family firms.

In sum, the findings of this study suggest that dividend policy in family firms is indicative of agency problems. Further, our findings imply that the corporate governance changes that have taken place in East Asia since the 1997 Asian financial crisis (Carney and Child, 2013) do not appear to have improved the corporate behavior of family firms. This result is consistent with Faccio et al. (2001), who argue that "crony capitalism" in East Asian economies is politically, rather than institutionally, determined. More broadly, our evidence contributes to the literature on the relation between family control and dividend policy by considering a cross-country sample, thereby adding to the debate on the extent to which family control serves the family's interests to the detriment of outside shareholders, as well as to the growing line of research that examines the corporate effects of the 2008-2009 financial crisis (e.g., Lins et al., 2013; Campello, Graham, and Harvey, 2010; Duchin, Ozbas, and Sensoy, 2010; Ivashina and Scharfstein, 2010; Kuppuswamy and Villalonga, 2010).

The rest of this study is organized as follows. In Section 2, we develop our hypotheses. In Section 3 we describe our research design and sample construction. In Section 4 we report the results, and in Section 5 we conclude.

**2. Hypotheses**

Our hypotheses are rooted in work that suggests dividends bind managers to a long-term commitment to disgorge future free cash flows and expose managers to increased monitoring by the external market, reducing the risk of insider expropriation (Rozeff, 1982; Easterbrook, 1984; Jensen, 1986; Faccio et al., 2001). Accordingly, dividend-paying firms are expected to have less agency problems.[4]

Based on this line of reasoning, we distinguish two views on the relation between family control and dividends. On the one hand, the *positive* view of family firms (Anderson and Reeb, 2003) suggests that family firms have fewer agency problems than nonfamily firms. Thus, this positive view implies that family firms pay higher dividends than other firms. On the other hand, prior empirical evidence (e.g., Claessens, Djankov, Fan, and Lang, 2002; Fan and Wong, 2002; Barth, Gulbrandsen, and Schone, 2005; Attig, Fong, Lang, and Gadhoum, 2006; Boubakri et al., 2010) shows that family firms tend to be associated with more agency problems than nonfamily firms, due to greater use of control-enhancing mechanisms and excessive board representation (e.g., La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 1998; Faccio et al., 2001; Faccio and Lang, 2002). Thus, this *negative* view of family firms implies that family-controlled firms pay lower dividends than other firms.

[4] For instance, La Porta, Lopez-de-Silanes, Shleifer, and Vishny (2000) find that firms in countries with strong investor protection pay higher dividends than firms in countries with weak investor protection.

Because our sample firms are in countries with weak protection of minority shareholder interests (Carney and Child, 2013; Claessens et al., 2000), our first hypothesis is based on the negative view of family firms:

*$H_1$: Family firms pay lower dividends than nonfamily firms.*

However, extant theory also suggests that firms with more pronounced agency and information problems pay higher dividends to signal private information about the firm's future prospects (Bhattacharya, 1979; Miller and Rock, 1985) or to bond themselves to act in the interests of shareholders (Rozeff, 1982).[5] Under this alternative explanation, the positive view of family firms suggests that family firms do not need the bonding or signaling benefits of an aggressive dividend policy and hence pay lower dividends than non-family firms, while the negative view of family firms suggests that family firms pay higher dividends than nonfamily firms to signal or bond themselves more aggressively.[6]

To distinguish the agency problem explanation from the alternative (i.e., signaling or bonding) explanation, we first examine the dividend policy of family firms according to the extent of their agency problems as proxied by their free cash flows. If the dividend policy of family firms is driven by agency problems, we would expect family firms with more pronounced agency problems to pay lower dividends than other family firms. This leads to our second hypothesis:

*$H_2$: Family firms with more pronounced agency problems (i.e., more free cash flow) pay lower dividends than other family firms.*

[5] We thank an anonymous reviewer for suggesting this alternative and the empirical strategy to test it.

[6] Dividends as a signal of private information should be more relevant for family firms than nonfamily firms, since the former are likely to have more pronounced information asymmetry problems (e.g., Attig et al., 2006; Anderson et al., 2009).

To further distinguish the explanation driving the dividend policy of family firms, we examine the effect of family control on *changes* in dividends. Under the agency problem explanation, an increase in dividends binds managers to pay out higher dividends in future periods (e.g., Jensen, 1986), while a decrease in dividends increases the free cash flow available to managers to divert to their private benefit. The negative view of family firms implies in turn that their managers will be less inclined to increase dividends. In our third hypothesis we thus predict that family firms are negatively (positively) associated with increases (decreases) in dividends. Formally:

*$H_3$: Family firms are negatively (positively) associated with increases (decreases) in dividends.*

Building on this test, we examine the sensitivity of dividend changes in family firms to changes in their profitability. The negative view under the agency problem explanation predicts that family firms with increased profitability are inclined to decrease dividends to increase managerial discretion with respect to the use of corporate resources, while that under the signaling/bonding explanation predicts that family firms with increased profitability increase dividends to signal their favorable prospects. In terms of the agency explanation, our fourth hypothesis is thus as follows:

*$H_4$: Family firms with increased profitability are negatively (positively) associated with dividend increases (decreases).*

In an additional test to distinguish the agency and signaling/bonding explanations, we examine the extent to which an unexpected liquidity shock—the 2008-2009 financial crisis—affects the dividend policy of family firms. Lins et al. (2013) argue that a liquidity shock can lead family-controlled firms, compared to other firms, to engage in actions that aim to preserve the family's benefits of control at the expense of outside shareholders. The recent financial crisis can

thus be used as a natural experiment that helps alleviate endogeneity concerns. Boubakri et al. (2010) find a positive association between family control and firms' equity financing costs following the 1997 Asian crisis, lending support to the argument that agency costs are more pronounced during times of crisis. Consistent with the expropriation hypothesis, Bae, Baek, Kang, and Liu (2012) find that poorly governed Asian firms experience a large decrease in value during the 1997 Asian crisis, but perform better during the recovery period. Johnson et al. (2000) further suggest that rent expropriation can be exacerbated during a crisis, and Mitton (2002) posits that corporate governance may be especially critical during periods of economic distress. Building on these insights, the negative view of family firms under the agency problems explanation predicts that family firms pay lower dividends during the recent financial crisis. This leads to our fifth hypothesis, as follows:

*$H_5$: During the 2008-2009 financial crisis, family firms pay lower dividends than nonfamily firms.*

## 3. Data and research design

### *3.1. Sample selection and ownership data*

To investigate the impact of family firms on dividend payout policy, we first compile ownership data for a sample of firms from nine East Asian economies (Hong Kong, Indonesia, Japan, Korea, Malaysia, Philippines, Singapore, Taiwan, Thailand) used by Carney and Child (2013). The dataset identifies the ultimate controlling shareholders as well as their ultimate cash flow (ownership) and voting (control) rights as of 2008. It also includes information on the presence of multiple large shareholders and their control stakes. We hand-match the ownership dataset with financial data from the Compustat Global database for the period 2006-2010. We drop firms with insufficient financial data to construct the regression variables and eliminate

financial firms (Standard Industrial Classification [SIC] codes between 6000 and 6999) from our analysis. This procedure leaves us with 4,285 observations representing 923 unique firms over the 2006-2010 period.

*3.2. Variables*

*Dividend variable.* Following prior research (e.g., Chay and Suh, 2009), we use the dividend payout ratio, *DIV/E*, as our primary measure of dividends. *DIV/E* is computed as the ratio of cash dividends to net income before extraordinary items. We winsorize *DIV/E* at 0 and 1, and we set *DIV/E* to 1 if cash dividends are larger than net income and to 0 for negative net income firms that do not pay cash dividends.[7] We consider alternative dividend payout measures in robustness tests.

*Family control.* Following Boubakri et al. (2010) and Lins et al. (2013), we proxy for family control using *FAMILY*, a dummy variable set to 1 if the ultimate owner is a family and 0 otherwise. Carney and Child (2013) identify ultimate owners at the 10% and 20% thresholds. We consider ultimate owners at the 10% threshold in our main analysis.[8]

*Control variables.* Our selection of firm-level control variables closely follows Brockman and Unlu (2009). Specifically, we control for *RE/TE,* the ratio of retained earnings (RE) to total assets (AT); *TE/TA,* the ratio of shareholders' equity (CEQ) to total assets; *ROA,* return on assets, computed as the ratio of net income before extraordinary items (IB) to total assets; *SGR,* logarithmic sales growth, computed as $\log(SALE_t/SALE_{t-1})$; *SIZE,* the natural logarithm of total assets in millions of $US; and *CH/TA,* the ratio of cash and short-term investments (CHE) to total assets. To mitigate the impact of outliers, we winsorize all ratios at the 1% and 99% levels.

[7] We thank the reviewer for suggesting this procedure, which minimizes sample attrition due to negative net income.

[8] Our results are robust to using the 20% threshold (untabulated).

In addition to the above firm-level variables, we control for country and industry-year effects, to account for country- and industry-specific trends, in all our regressions.[9] We do not include firm fixed effects because the cross-sectional variation in *FAMILY* should capture the heterogeneity in dividend payout policy across firms, and including firm fixed effects would remove all cross-sectional variation from the data (Zhou, 2001; Lemmon, Roberts, and Zender, 2008). Further details on variable construction are provided in Appendix A.

*3.3. Descriptive statistics*

Table 1 summarizes our sample distribution by year, country, and industry (using Campbell's (1996) industry classification). Among East Asian countries, Taiwanese firms have the largest representation in our sample (15.52%) followed by Malaysian firms (13.16%). In contrast, only 6.09% and 9.40% of sample firms are in the Philippines and Indonesia, respectively. Our sample also shows diversification across industries, with 21.05% in the consumer durables industry segment, 13.16% in basic industries, 11.11% in food and tobacco, and 10.18% in utilities. In sum, Table 1 suggests that the distribution of our sample has sufficient variation across years, countries, and industries to identify a link between family ownership and dividend payout policy in an international context.

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**Table 1 goes here**

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Table 2 presents descriptive statistics by country. We note that the highest average dividend payout ratio is in Thailand (52.2%), followed by Japan (46.9%), Taiwan (45.9%), and Malaysia (44.8%), while the Philippines has the lowest average dividend payout ratio (30.8%). Interestingly, however, the Philippines has the highest proportion of firms with a family as the

[9] In Table 5 we also control for industry and country-year effects. We find similar results, and thus for brevity only report results using country and industry-year effects in the subsequent analysis.

ultimate owner (78.5% of sample firms at the country level), followed by Korea (63.5%). Similarly, while Japan displays the lowest proportion of family firms (11.2%), it has the second-highest dividend payout ratio. These descriptive figures provide preliminary evidence of a negative link between family control and dividend payouts.

A casual examination of the distribution of other firm characteristics shows that Japanese and Malaysian firms have the highest retained earnings (*RE/TE* of 0.640 and 0.426, respectively), while firms in Korea and Hong Kong have the lowest (*RE/TE* of 0.089 and 0.115, respectively). On average, firms have a *TE/TA* higher than 50% in most countries, with the exception of firms in Indonesia, Japan, and Korea. The fastest-growing firms are in Indonesia (sales growth rate of 15%) followed by firms in Singapore (13.8%). Firms in Japan exhibit the lowest sales growth (1.9%) and the lowest profitability (*ROA* of 3.4%) compared to firms in other countries in the region. In sum, the figures reported in Table 2 again suggest that our sample contains sufficient heterogeneity in dividend policy and firm ownership across East Asian countries to examine our research question.

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**Table 2 goes here**

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Table 3 presents descriptive statistics at the firm level and correlations among our key regression variables. In Panel A we observe that our sample firms have an average dividend payout ratio of 41.4%. Further, for 43.3% of our sample firms the ultimate shareholder is a family. In Panel B we see that, in line with our first hypothesis ($H_1$), family control (*FAMILY*) is negatively correlated with *DIV/E,* suggesting that family firms pay lower dividends. The pairwise correlation coefficients between the key regression variables are low, indicating that multicollinearity is not likely to affect our multivariate regression results.

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**Table 3 goes here**

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## 4. Empirical results

### *4.1. Univariate analysis*

To further explore differences between family and nonfamily firms, in Table 4 we examine differences in means (Panel A) and medians (Panel B). In Panel A we observe that the dividend payout ratio is significantly higher for nonfamily firms (45.0%) than family firms (36.7%). This result is in line with our preliminary evidence in Table 2 and Table 3, Panel B, indicating that family firms tend to pay lower dividends than their nonfamily counterparts. This finding does not appear to be explained by firm profitability or growth, as the profitability (*ROA*) and sales growth (*SGR*) of family firms are indistinguishable from those of nonfamily firms, leaving open the possibility that rent expropriation may explain dividend payout policy in family firms. The findings based on differences in medians reported in Panel B are generally consistent with the differences in means results in Panel A. One noticeable exception is that the median sales growth of family firms is higher than that of nonfamily firms.

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**Table 4 goes here**

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While the results of Table 4 are interesting in their own right, they do not control for other variables that could affect firms' dividend policy. We conduct multivariate analysis next.

### *4.2. Multivariate analysis*

#### *4.2.1. Family firms and dividend policy: Main evidence*

To examine the impact of family control on firms' dividend payout ratio (*DIV/E*), we estimate the following Tobit regression model:

$$DIV/E = \alpha_0 + \alpha_1 FAMILY + \alpha_2\, RE/TE + \alpha_3\, TE/TA + \alpha_4 ROA + \alpha_5 SGR + \alpha_6 SIZE + \alpha_7\, CH/TA + Fixed\ Effects + \varepsilon\,, \quad (1)$$

where inferences are based on standard errors clustered by firm. Table 5 reports the results.

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**Table 5 goes here**

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We begin in column 1 of Table 5 by estimating the above specification with country and industry-year effects. The estimated coefficient on *FAMILY* is negative and significant at the 1% level, suggesting that in line with our first hypothesis ($H_1$), family firms pay lower dividends than nonfamily firms. When we repeat this analysis using industry and country-year effects in column 2, we find that the effect of *FAMILY* on *DIV/E* remains negative and significant at the 1% level. Thus, for brevity we focus on country and industry-year effects in subsequent analysis. The coefficients on the control variables exhibit the expected signs and are consistent with those reported in prior literature. For instance, retained earnings and firm size load significantly positively while sales growth loads significantly negatively on dividend payouts.

Because family firms may be fundamentally different from nonfamily firms (for instance, Table 4 shows that family firms are significantly smaller and have higher equity-to-asset ratios than nonfamily firms), one may ask whether the negative relation between family control and dividends is driven by family control or other firm characteristics. To address this question, we employ propensity score matching (PSM) to control for differences in characteristics between family and nonfamily firms and estimate family firm treatment effects. We start by running a Probit model of *FAMILY* on firm characteristics as well as fixed effects (country and industry-year). We then match each family firm to the nonfamily firm with the

closest score (with replacement[10]). The advantage of using a matched sample is that family and nonfamily firms are similar with respect to firm characteristics included in the Probit model, which allows us to isolate the effect of family firm affiliation on dividend payouts. The results, reported in column 3 of Table 5, are in line with our main results. Specifically, *FAMILY* is still negatively related to the propensity to pay dividends, and significant at the 5% level.

*4.2.2. Family firms and dividend policy: Competing explanations*

While our results above highlight a negative relationship between family control dividend payouts ($H_1$), they are not necessarily consistent with an agency explanation, in line with the negative view of family firms. In particular, the negative link between family firms and dividends could reflect less need to pay dividends due to lower signaling/bonding motives, in line with the positive view of family firms. To distinguish which of these explanations drives our results on the relation between family control and dividends, we begin by examining the extent to which family firms with more pronounced agency problems–i.e., high free cash flows and few investment opportunities (e.g., Lang, Stulz, and Walkling, 1991; Chen, Chen, and Wei, 2011)–pay lower dividends than other firms ($H_2$).

Following Lins et al. (2013), we measure a firm's cash flow as the difference between operating income before depreciation and capital expenditures deflated by total assets. Note that if family firms suffer from agency problems, their observed free cash flow might be endogenous. To circumvent this endogeneity issue, we adopt the methodology of Chen et al. (2011) and employ a firm's residual cash flow, calculated as the residual from a regression of cash flow on *FAMILY*, as this measure is orthogonal to family control (Chen et al., 2011). To capture a firm's investment opportunities we use its industry median Tobin's Q, where Q is

[10] Results with no replacement are similar (untabulated).

equal to total assets minus shareholders' equity plus market capitalization all deflated by total assets, as the industry median value should be largely unaffected by the firm's ownership structure. Using these measures, each year we assign firms to one of four subsamples according to whether their residual cash flow is lower (higher) than the median and whether their median industry Q is lower (higher) than the median; the firms with above-median residual cash flows and below-median industry Tobin's Q are identified as having pronounced agency problems. We then estimate our main regression separately for the four subsamples.

The results are reported in Table 6. Interestingly, we find that *FAMILY* loads significantly negatively only for the subsample of firms suffering from pronounced agency problems. Consistent with $H_2$, this finding supports the agency explanation for the negative relation between family control and dividends, suggesting a negative view of family firms.

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**Table 6 goes here**

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In Table 7 we further examine the link between family control and changes in dividends, and the sensitivity of dividend changes in family firms to changes in firm profitability. Our third hypothesis ($H_3$) predicts that family firms are negatively (positively) associated with increases (decreases) in dividends, while our fourth hypothesis ($H_4$) predicts that family firms with increased profitability are negatively (positively) associated with dividend increases (decreases). To test these predictions, we create *DIV_INCR* (*DIV_DECR*), which equals 1 if cash dividends in year *t* are higher (lower) than cash dividends in year *t*-1 and 0 otherwise, and *DIV_OMIT*, which equals 1 if cash dividends in year *t* are 0 and dividends in year *t-1* are positive and 0 otherwise. Columns 1 and 2 report results for increases in dividends, while columns 3 and 4 (5 and 6) correspond to dividend decreases (omissions).

In column 1 we find that family firms are negatively associated with increases in dividends. In particular, we document a negative and significant (at the 1% level) effect of *FAMILY* on the likelihood of a dividend increase (*DIV_INCR)*, suggesting that family firms are less likely to increase dividend payouts. In column 2 we further find that family firms with increased profitability are associated with a lower likelihood of a dividend increase than other firms. On the decrease side, we find that family firms are positively associated with decreases in dividends, with *FAMILY* loading positively and significantly (at the 1% level) on the likelihood of a dividend decrease (*DIV_DECR)*. We do not find a significant effect of the interaction between family firms and changes in profitability on the likelihood of decreasing dividends. Turning to dividend omissions, we find that *FAMILY* loads positively and significantly on *DIV_OMIT*, suggesting that family firms tend to not only reduce dividends (as reported in columns 3 and 4), but to omit them as well. Equally important, we document a positive and significant coefficient on the interaction between family control and changes in firm profitability (*FAMILY*×Δ*ROA*) on *DIV_OMIT*. Overall, these results are in line with our third and fourth hypotheses, and hence suggest that dividend policy in family firms is more likely to be driven by agency problems than the alternative signaling/bonding explanation.

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**Table 7 goes here**
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Although the evidence we document above on the link between family control and dividend payout policy (in terms of both levels and changes) is on the whole persuasive, in the following sections we further improve our understanding of this relation by examining the extent to which the recent global financial crisis as well as firm-specific characteristics affect this relation.

*4.2.3. Family firms and dividend policy: The effect of the global financial crisis*

In Table 8 we investigate the effect of the recent global financial crisis on family firms' dividend payout policy. Our fifth hypothesis ($H_5$) predicts that family firms pay lower dividends during the financial crisis. To test this prediction, we run our analysis introducing a dummy variable (*D(*2008-2009*)*) for the crisis years (2008 and 2009) and the interaction between this variable and *FAMILY* (*FAMILY×D(2008-2009)*). Interestingly, while *FAMILY* loses its statistical significance, *FAMILY×D(2008-2009)* bears significantly negatively on the level of dividends paid out of earnings.

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**Table 8 goes here**
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The novel finding of Table 8, which is consistent with our fifth hypothesis, suggests that family firms in East Asia decreased their dividend payouts during the recent financial crisis. This result supports the argument that resource preservation and rent expropriation in family firms are more pronounced during financial shocks than during normal times. This evidence also suggests that the governance reforms that took place in East Asia following the 1997 Asian financial crisis have not significantly altered the corporate behavior of family firms.

*4.3. Additional analyses and robustness checks*

In this subsection, we subject our main findings to sensitivity tests to assess the robustness of our conclusions.

*Impact of family control on cash and investment.* Our results so far indicate that family firms pay lower dividends than nonfamily firms. This raises the question of how families employ the resources they do not distribute to shareholders. As we discuss in the introduction, firms with increased profitability may not distribute dividends in order to accumulate cash and thereby

buffer investments from transitory financing shocks (e.g., Opler et al., 1999; Harford et al., 2008; Brown and Petersen, 2011). To the extent this is the case, then family firms with increased profitability are expected to be associated with more cash reserves and more investment. To test this conjecture we examine the impact of family firms on cash holdings and capital expenditures. We report the results in Table 9. We find that, on average, family firms do not have a statistically significant impact on either cash holdings or capital expenditures. However, when we interact the *FAMILY* with the change in ROA, the coefficients on the interaction terms enter with a negative and statistically significant sign. This indicates that when profitability increases, family firms tend to reduce cash holdings and cut investment expenditures. Together with our main finding that family firms pay fewer dividends, the results of Table 9 indicate that family firms are associated with more appropriation of corporate resources than nonfamily firms.

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**Table 9 goes here**

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*Alternative payout variables.* To assess whether our results continue to hold if we use alternative payout variables. First, we consider dividends deflated by assets (*DIV*/A). Second, we follow Brockman and Unlu (2009) and use *DIV*/S on the grounds that sales are less prone to opportunistic manipulation than earnings. Third, we employ total payout, that is, cash dividends and stock repurchases, deflated by earnings (*TOTP/E*) as alternative dependent variables. The results reported in Table 10 show that the estimated coefficients on *FAMILY* remain largely unchanged, confirming our findings above based on *DIV/E.*

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**Table 10 goes here**

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*Sample composition.* Recall from Table 1 that some countries account for more than 15% of our sample firms (e.g., Taiwan), while others (e.g., the Philippines) account for only 6.41%. In Panel A of Table 11, we explore whether the exclusion of any given country alters our core findings. To do so, we rerun our main regression model by sequentially excluding each of our sample countries. Our main finding of a negative association between family firms and dividend payouts remains unchanged.

**----------**
**Table 11 goes here**
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To further assess whether sample composition is driving our main evidence, we re-estimate our regression model using *weighted* regressions, where countries with a large number of observations are given less weight. The results, reported in Panel B of Table 11, confirm our main evidence that family ownership is significantly negatively related to firms' dividend policy (at the 1% level). Our control variables also retain their sign and significance, suggesting that our evidence is not driven by sample composition.

## 5. Conclusion

Notwithstanding prior research on the role that ultimate corporate ownership structure plays in corporate outcomes, few studies examine the dividend payout policy of family firms in an international context. Our work fills this void by documenting the importance of family ownership in shaping firms' dividends policy in East Asian firms. Moreover, by examining the impact of the recent global financial crisis on family firms' dividend payout policy, we add to the nascent literature on the effects of the financial crisis.

We provide strong evidence that family firms are negatively associated with the amount of dividends paid out of earnings. We also show that family firms are more likely to decrease

and omit dividends. In addition, we provide novel evidence that the negative effect of family firms on dividend payouts is more pronounced during financial crises, lending support to the view that rent expropriation and private benefits of control in family firms are exacerbated during financial shocks.

To some extent, our evidence is puzzling. We would have expected the corporate governance reforms following the East Asian crisis of 1997 to have mitigated if not eliminated the incentives of controlling shareholders to expropriate minority shareholders, yet our evidence suggests that progress in implementing corporate governance reforms in East Asia has been slow. This may be due to resistance to change by the private sector (Walter, 2008) or to the rigidity of business models in East Asian economies that are deeply rooted in their political institutions and a culture of crony capitalism. In this regard, Carney and Child (2013) conclude that corporate ownership is likely to undergo substantial change only where major political change occurs. One might be tempted to argue that a more democratic political system (i.e., more players) favors more dispersed ownership and greater protection of minority interests (e.g., Hall and Soskice, 2001; Beck, Clarke, Groff, Keefer, and Walsh, 2001). However, a more democratic process may actually strengthen family dominance in this region (Wu, 2005), as electoral competition in many Asian countries requires deep pockets given the prevalence of vote-buying (Callahan, 2000). While our evidence does not allow us to weigh in on which side is right, it points to a "chicken or egg" dilemma: changing political institutions may reinforce the dominance of crony capitalism in East Asian economies because business groups have the resources needed to control electoral competition and the transition process.

## Appendix A. Variable definitions and data sources

This appendix provides variable definitions and data sources. Compustat data items are reported between parentheses.

| Variable | Definition | Source |
|---|---|---|
| *DIV/E* | Dividend payout defined as the ratio of cash dividends (DV) to net income before extraordinary items (IB). *DIV/E* is set to 1 if cash dividends are larger than net income. *DIV/E* is set to 0 for negative net income firms that do not pay cash dividends. | Authors' calculations based on Compustat data |
| *DIV_INCR* | Dummy variable set to 1 if cash dividends in year *t* are higher than cash dividends in year *t-1*, and 0 otherwise. | As above |
| *DIV_DECR* | Dummy variable set to 1 if cash dividends in year *t* are lower than cash dividends in year *t-1*, and 0 otherwise. | As above |
| *DIV_OMIT* | Dummy variable set to 1 if a dividend-paying firm in year *t*-1 omits to pay dividends in year *t*, and 0 otherwise. | As above |
| *DIV/A* | Ratio of cash dividends (DV) to total assets (AT). | As above |
| *DIV/S* | Ratio of cash dividends (DV) to sales (SALE). | As above |
| *TOTP/E* | Total payout defined as the ratio of the sum of cash dividends (DV) and stock repurchases (PRSTKC) to net income before extraordinary items (IB). | As above |
| *FAMILY* | Dummy variable set to 1 if the largest ultimate owner at the 10% threshold is a family, and 0 otherwise. | Authors' calculation based on Carney and Child's (2012) data |
| *RE/TE* | Ratio of retained earnings (RE) to common stockholders' equity (CEQ). | Authors' calculations based on Compustat data |
| *TE/TA* | Ratio of common stockholders' equity (CEQ) to total assets (AT). | As above |
| *ROA* | Return on assets computed as ratio of net income before extraordinary items (IB) to total assets (AT). | As above |
| *SGR* | Logarithmic sales growth computed as $\log(SALE_t/SALE_{t-1})$. | As above |
| *SIZE* | Natural logarithm of total assets in millions of $US. | As above |
| *CH/TA* | Ratio of cash and short-term investments (CHE) to total assets (AT). | As above |
| Residual cash-flow | The residual from a regression of cash-flow on *FAMILY*. Cash-flow is defined as the ratio of the difference between operating income before depreciation (OIBDP) and capital expenditures (CAPX) to total assets (AT). | As above |
| Industry Q | The median industry Q in year *t*. Q is the ratio of total assets (AT) minus stockholder's equity (CEQ) plus market capitalization (CSHOC×PRCCD), all deflated by total assets (AT). | As above |
| Δ*ROA* | The change in *ROA* from year *t*-1 to year *t*. | As above |
| *D(2008-2009)* | Dummy variable set to 1 for years 2008 and 2009, and 0 otherwise. | As above |
| *CAPX/TA* | Ratio of capital expenditures (CAPX) to total assets (AT). | As above |

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**Table 1. Sample breakdown by year, country, and industry**

| Year | N | % |
|---|---|---|
| 2006 | 867 | 20.23 |
| 2007 | 878 | 20.49 |
| 2008 | 873 | 20.37 |
| 2009 | 850 | 19.84 |
| 2010 | 817 | 19.07 |
| Total | 4,285 | 100 |

| Country | N | % |
|---|---|---|
| Hong Kong | 438 | 10.22 |
| Indonesia | 403 | 9.40 |
| Japan | 534 | 12.46 |
| Korea | 458 | 10.69 |
| Malaysia | 564 | 13.16 |
| Philippines | 261 | 6.09 |
| Singapore | 439 | 10.25 |
| Taiwan | 665 | 15.52 |
| Thailand | 523 | 12.21 |
| Total | 4,285 | 100 |

| Industry | N | % |
|---|---|---|
| Petroleum | 152 | 3.55 |
| Consumer durables | 902 | 21.05 |
| Basic industry | 564 | 13.16 |
| Food and tobacco | 476 | 11.11 |
| Construction | 261 | 6.09 |
| Capital goods | 334 | 7.79 |
| Transportation | 306 | 7.14 |
| Utilities | 436 | 10.18 |
| Textiles and trade | 248 | 5.79 |
| Services | 189 | 4.41 |
| Leisure | 205 | 4.78 |
| Other industries | 212 | 4.95 |
| Total | 4,285 | 100 |

This table presents the sample distribution by year, country, and industry (according to Campbell's (1996) classification). The sample comprises 4,285 observations representing 923 unique firms over the 2006-2010 period.

**Table 2. Descriptive statistics by country**

| Country | *DIV/E* | *FAMILY* | *RE/TE* | *TE/TA* | *ROA* | *SGR* | *SIZE* | *CH/TA* |
|---|---|---|---|---|---|---|---|---|
| Hong Kong | 0.329 | 0.532 | 0.115 | 0.586 | 0.040 | 0.099 | 6.629 | 0.198 |
| Indonesia | 0.312 | 0.541 | 0.264 | 0.472 | 0.068 | 0.150 | 5.969 | 0.141 |
| Japan | 0.469 | 0.112 | 0.640 | 0.449 | 0.034 | 0.019 | 9.592 | 0.141 |
| Korea | 0.359 | 0.635 | 0.089 | 0.397 | 0.046 | 0.122 | 8.281 | 0.129 |
| Malaysia | 0.448 | 0.557 | 0.426 | 0.547 | 0.075 | 0.108 | 6.405 | 0.149 |
| Philippines | 0.308 | 0.785 | 0.208 | 0.513 | 0.056 | 0.109 | 5.326 | 0.141 |
| Singapore | 0.407 | 0.560 | 0.391 | 0.541 | 0.065 | 0.138 | 6.210 | 0.182 |
| Taiwan | 0.459 | 0.140 | 0.160 | 0.523 | 0.063 | 0.090 | 7.228 | 0.198 |
| Thailand | 0.522 | 0.375 | 0.353 | 0.540 | 0.069 | 0.061 | 5.739 | 0.116 |
| All countries | 0.414 | 0.433 | 0.303 | 0.508 | 0.058 | 0.096 | 6.945 | 0.157 |

This table presents country means of the regression variables. *DIV/E* is dividend payout defined as the ratio of cash dividends (DV) to net income before extraordinary items (IB). *DIV/E* is set to 1 if cash dividends are larger than net income. *DIV/E* is set to 0 for negative net income firms that do not pay cash dividends. *FAMILY* is a dummy variable set to 1 if the largest ultimate owner at the 10% threshold is a family, and 0 otherwise. *RE/TE* is the ratio of retained earnings (RE) to common stockholders' equity (CEQ). *TE/TA* is the ratio of common stockholders' equity (CEQ) to total assets (AT). *ROA* is return on assets computed as ratio of net income before extraordinary items (IB) to total assets. *SGR* is logarithmic sales growth computed as $\log(SALE_t/SALE_{t-1})$. *SIZE* is the natural logarithm of total assets in millions of $US. *CH/TA* is the ratio of cash and short-term investments (CHE) to total assets (AT). The sample comprises 4,285 observations representing 923 unique firms over the 2006-2010 period.

**Table 3. Descriptive statistics and correlation matrix**

Panel A. Descriptive statistics

| | Mean | Q1 | Median | Q3 | SD |
|---|---|---|---|---|---|
| *DIV/E* | 0.414 | 0.112 | 0.339 | 0.682 | 0.349 |
| *FAMILY* | 0.433 | 0.000 | 0.000 | 1.000 | 0.496 |
| *RE/TE* | 0.303 | 0.129 | 0.400 | 0.648 | 0.640 |
| *TE/TA* | 0.508 | 0.356 | 0.496 | 0.665 | 0.208 |
| *ROA* | 0.058 | 0.020 | 0.053 | 0.096 | 0.081 |
| *SGR* | 0.096 | -0.024 | 0.088 | 0.210 | 0.396 |
| *SIZE* | 6.945 | 5.588 | 6.718 | 8.302 | 1.899 |
| *CH/TA* | 0.157 | 0.064 | 0.121 | 0.212 | 0.130 |

Panel B. Correlation matrix

| | *DIV/E* | *FAMILY* | *RE/TE* | *TE/TA* | *ROA* | *SGR* | *SIZE* | *CH/TA* |
|---|---|---|---|---|---|---|---|---|
| *DIV/E* | 1 | | | | | | | |
| *FAMILY* | -0.118*** | 1 | | | | | | |
| | (0.000) | | | | | | | |
| *RE/TE* | 0.172*** | -0.049*** | 1 | | | | | |
| | (0.000) | (0.001) | | | | | | |
| *TE/TA* | 0.005 | 0.055*** | 0.141*** | 1 | | | | |
| | (0.755) | (0.000) | (0.000) | | | | | |
| *ROA* | -0.011 | -0.002 | 0.354*** | 0.356*** | 1 | | | |
| | (0.458) | (0.911) | (0.000) | (0.000) | | | | |
| *SGR* | -0.137*** | 0.011 | -0.004 | -0.065*** | 0.174*** | 1 | | |
| | (0.000) | (0.493) | (0.775) | (0.000) | (0.000) | | | |
| *SIZE* | 0.094*** | -0.213*** | 0.185*** | -0.372*** | -0.125*** | -0.023 | 1 | |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.139) | | |
| *CH/TA* | 0.026* | -0.021 | 0.016 | 0.391*** | 0.250*** | -0.015 | -0.154*** | 1 |
| | (0.095) | (0.173) | (0.299) | (0.000) | (0.000) | (0.314) | (0.000) | |

This table presents descriptive statistics (Panel A) and a correlation matrix (Panel B) for the regression variables. *DIV/E* is dividend payout, defined as the ratio of cash dividends (DV) to net income before extraordinary items (IB). *DIV/E* is set to 1 if cash dividends are larger than net income, and to 0 for negative net income firms that do not pay cash dividends. *FAMILY* is a dummy variable set to 1 if the largest ultimate owner at the 10% threshold is a family, and 0 otherwise. *RE/TE* is the ratio of retained earnings (RE) to common stockholders' equity (CEQ). *TE/TA* is the ratio of common stockholders' equity (CEQ) to total assets (AT). *ROA* is return on assets, computed as ratio of net income before extraordinary items (IB) to total assets. *SGR* is logarithmic sales growth, computed as $\log(SALE_t/SALE_{t-1})$. *SIZE* is the natural logarithm of total assets in millions of $US. *CH/TA* is the ratio of cash and short-term investments (CHE) to total assets (AT). The *p*-value is reported in parentheses below each correlation coefficient. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively. The sample comprises 4,285 observations representing 923 unique firms over the 2006-2010 period.

**Table 4. Univariate tests**

| Panel A. Differences in means | | | | |
|---|---|---|---|---|
| | *FAMILY*=0 | *FAMILY*=1 | Difference | *t*-test |
| | (1) | (2) | (3)= (2)- (1) | |
| *DIV/E* | 0.450 | 0.367 | -0.083 | -7.807*** |
| *RE/TE* | 0.330 | 0.267 | -0.063 | -3.217*** |
| *TE/TA* | 0.498 | 0.521 | 0.023 | 3.621*** |
| *ROA* | 0.058 | 0.058 | 0.000 | 0.112 |
| *SGR* | 0.093 | 0.101 | 0.008 | 0.685 |
| *SIZE* | 7.299 | 6.483 | -0.816 | -14.256*** |
| *CH/TA* | 0.159 | 0.154 | -0.005 | -1.364 |
| Panel B. Differences in medians | | | | |
| | *FAMILY*=0 | *FAMILY*=1 | Difference | *z*-test |
| | (1) | (2) | (3)= (2)- (1) | |
| *DIV/E* | 0.383 | 0.273 | -0.110 | -8.258*** |
| *RE/TE* | 0.401 | 0.400 | -0.001 | -2.710*** |
| *TE/TA* | 0.485 | 0.512 | 0.027 | 3.772*** |
| *ROA* | 0.052 | 0.054 | 0.002 | 0.119 |
| *SGR* | 0.080 | 0.098 | 0.018 | 2.974*** |
| *SIZE* | 7.225 | 6.295 | -0.930 | -14.037*** |
| *CH/TA* | 0.124 | 0.115 | -0.009 | -2.271** |

This table presents differences in means (Panel A) and differences in medians (Panel B) for the regression variables across family and nonfamily firms. *DIV/E* is dividend payout defined as the ratio of cash dividends (DV) to net income before extraordinary items (IB). *DIV/E* is set to 1 if cash dividends are larger than net income. *DIV/E* is set to 0 for negative net income firms that do not pay cash dividends. *RE/TE* is the ratio of retained earnings (RE) to common stockholders' equity (CEQ). *TE/TA* is the ratio of common stockholders' equity (CEQ) to total assets (AT). *ROA* is return on assets computed as ratio of net income before extraordinary items (IB) to total assets. *SGR* is logarithmic sales growth computed as $\log(SALE_t/SALE_{t-1})$. *SIZE* is the natural logarithm of total assets in millions of $US. *CH/TA* is the ratio of cash and short-term investments (CHE) to total assets (AT). *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively. The sample comprises 4,285 observations representing 923 unique firms over the 2006-2010 period.

**Table 5. Family firms and dividend payout**

| | Industry-year effects | Country-year effects | PSM |
|---|---|---|---|
| | (1) | (2) | (3) |
| *FAMILY* | -0.069*** | -0.069*** | -0.067** |
| | (0.006) | (0.006) | (0.029) |
| *RE/TE* | 0.204*** | 0.203*** | 0.201*** |
| | (0.000) | (0.000) | (0.000) |
| *TE/TA* | -0.075 | -0.067 | -0.102 |
| | (0.274) | (0.322) | (0.264) |
| *ROA* | -0.290 | -0.321 | -0.308 |
| | (0.153) | (0.113) | (0.239) |
| *SGR* | -0.161*** | -0.153*** | -0.188*** |
| | (0.000) | (0.000) | (0.000) |
| *SIZE* | 0.027*** | 0.028*** | 0.035*** |
| | (0.001) | (0.001) | (0.004) |
| *CH/TA* | 0.231** | 0.237** | 0.274** |
| | (0.016) | (0.014) | (0.038) |
| Intercept | -0.088 | 0.020 | -0.243 |
| | (0.476) | (0.859) | (0.116) |
| Country effects | Yes | No | Yes |
| Industry-year effects | Yes | No | Yes |
| Industry effects | No | Yes | No |
| Country-year effects | No | Yes | No |
| N | 4,285 | 4,285 | 2,321 |
| Pseudo-$R^2$ | 0.115 | 0.116 | 0.118 |

This table presents fixed effects Tobit regression results. The dependent variable is *DIV/E*, dividend payout defined as the ratio of cash dividends (DV) to net income before extraordinary items (IB). *DIV/E* is set to 1 if cash dividends are larger than net income. *DIV/E* is set to 0 for negative net income firms that do not pay cash dividends. The independent variables are as follows. *FAMILY* is a dummy variable set to 1 if the largest ultimate owner at the 10% threshold is a family, and 0 otherwise. *RE/TE* is the ratio of retained earnings (RE) to common stockholders' equity (CEQ). *TE/TA* is the ratio of common stockholders' equity (CEQ) to total assets (AT). *ROA* is return on assets, computed as ratio of net income before extraordinary items (IB) to total assets. *SGR* is logarithmic sales growth, computed as $\log(SALE_t/SALE_{t-1})$. *SIZE* is the natural logarithm of total assets in millions of $US. *CH/TA* is the ratio of cash and short-term investments (CHE) to total assets (AT). In column 1 the regression controls for country effects and industry-year effects. In column 2 the regression controls for industry effects and country-year effects. In column 3 the regression is performed on a propensity score matched sample. We run a Probit model of *FAMILY* on firm characteristics as well as country effects and industry-year effects. We then match each family firm to the nonfamily firm with the closest score (with replacement). *p*-values based on standard errors clustered by firm are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

**Table 6. Family firms and dividend payout: The role of the agency costs of free cash flow**

| | Low residual cash flow | | High residual cash flow | |
|---|---|---|---|---|
| | Low industry Q | High industry Q | Low industry Q | High industry Q |
| | (1) | (2) | (3) | (4) |
| *FAMILY* | -0.090 | -0.092 | -0.089*** | -0.052 |
| | (0.136) | (0.105) | (0.009) | (0.106) |
| *RE/TE* | 0.230*** | 0.368*** | 0.153*** | 0.079 |
| | (0.001) | (0.000) | (0.001) | (0.133) |
| *TE/TA* | -0.091 | 0.001 | -0.004 | -0.112 |
| | (0.526) | (0.995) | (0.969) | (0.241) |
| *ROA* | -1.043** | -1.276** | -0.606* | 0.583** |
| | (0.026) | (0.011) | (0.056) | (0.046) |
| *SGR* | -0.176*** | 0.021 | -0.252*** | -0.526*** |
| | (0.000) | (0.722) | (0.000) | (0.000) |
| *SIZE* | 0.049*** | 0.066*** | -0.014 | -0.007 |
| | (0.008) | (0.001) | (0.281) | (0.553) |
| *CH/TA* | 0.377 | 0.445* | 0.346** | -0.033 |
| | (0.165) | (0.063) | (0.010) | (0.799) |
| Intercept | -0.429* | -0.391 | 0.274 | 0.473*** |
| | (0.098) | (0.106) | (0.104) | (0.006) |
| Country effects | Yes | Yes | Yes | Yes |
| Industry-year effects | Yes | Yes | Yes | Yes |
| N | 1,283 | 810 | 1,120 | 975 |
| Pseudo-$R^2$ | 0.125 | 0.175 | 0.185 | 0.255 |

This table presents fixed effects Tobit regression results. The dependent variable is *DIV/E*, dividend payout defined as the ratio of cash dividends (DV) to net income before extraordinary items (IB). *DIV/E* is set to 1 if cash dividends are larger than net income, and to 0 for negative net income firms that do not pay cash dividends. The independent variables are as follows. *FAMILY* is a dummy variable set to 1 if the largest ultimate owner at the 10% threshold is a family, and 0 otherwise. *RE/TE* is the ratio of retained earnings (RE) to common stockholders' equity (CEQ). *TE/TA* is the ratio of common stockholders' equity (CEQ) to total assets (AT). *ROA* is return on assets computed as ratio of net income before extraordinary items (IB) to total assets. *SGR* is logarithmic sales growth, computed as $\log(SALE_t/SALE_{t-1})$. *SIZE* is the natural logarithm of total assets in millions of $US. *CH/TA* is the ratio of cash and short-term investments (CHE) to total assets (AT). Each year, firms are assigned to one of four subsamples according to whether their residual cash flow is lower (higher) than the median and whether their industry Q is lower (higher) than the median. Cash flow is defined as the ratio of the difference between operating income before depreciation and capital expenditures to total assets. Residual cash flow is the residual from a regression of cash flow on *FAMILY*. Q is the ratio of total assets minus stockholder's equity plus market capitalization, all deflated by total assets. *p*-values based on standard errors clustered by firm are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

**Table 7. Family firms and dividend changes**

| | *DIV_INCR* | | *DIV_DECR* | | *DIV_OMIT* | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| *FAMILY* | -0.186** | -0.199** | 0.232*** | 0.236*** | 0.431* | 0.456** |
| | (0.029) | (0.020) | (0.006) | (0.005) | (0.051) | (0.040) |
| *FAMILY*×Δ*ROA* | | -2.035** | | -0.595 | | 3.885** |
| | | (0.043) | | (0.526) | | (0.025) |
| *RE/TE* | 0.469*** | 0.437*** | 0.576*** | 0.574*** | 0.079 | 0.151 |
| | (0.001) | (0.001) | (0.000) | (0.000) | (0.564) | (0.313) |
| *TE/TA* | 0.119 | 0.119 | -0.585** | -0.606** | -0.144 | -0.096 |
| | (0.602) | (0.606) | (0.013) | (0.010) | (0.810) | (0.876) |
| *ROA* | 7.027*** | 7.456*** | -2.962*** | -2.846*** | -5.489*** | -6.344*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| *SGR* | 0.157 | 0.155 | -0.362*** | -0.358*** | -0.122 | -0.104 |
| | (0.161) | (0.166) | (0.001) | (0.001) | (0.635) | (0.692) |
| *SIZE* | 0.153*** | 0.158*** | 0.052* | 0.050 | -0.057 | -0.061 |
| | (0.000) | (0.000) | (0.096) | (0.109) | (0.426) | (0.393) |
| *CH/TA* | 0.181 | 0.122 | -0.029 | -0.031 | 0.027 | -0.023 |
| | (0.587) | (0.715) | (0.932) | (0.926) | (0.975) | (0.979) |
| Intercept | -2.151*** | -2.175*** | -1.667*** | -1.652*** | -17.315*** | -17.554*** |
| | (0.000) | (0.000) | (0.005) | (0.006) | (0.000) | (0.000) |
| Country effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry-year effects | Yes | Yes | Yes | Yes | Yes | Yes |
| N | 4,217 | 4,205 | 4,217 | 4,205 | 2,844 | 2,839 |
| Pseudo-$R^2$ | 0.124 | 0.126 | 0.0873 | 0.0874 | 0.124 | 0.129 |

This table presents fixed effects logit regression results. In columns 1 and 2, the dependent variable is *DIV_INCR*, a dummy variable set to 1 if cash dividends in year *t* are higher than cash dividends in year *t*-1, and 0 otherwise. In columns 3 and 4, the dependent variable is *DIV_DECR*, a dummy variable set to 1 if cash dividends in year *t* are lower than cash dividends in year *t*-1, and 0 otherwise. In columns 5 and 6, the dependent variable is *DIV_OMIT*, a dummy variable set to 1 if a dividend-paying firm in year *t*-1 does not pay dividends in year *t*, and 0 otherwise. The independent variables are as follows. *FAMILY* is a dummy variable set to 1 if the largest ultimate owner at the 10% threshold is a family, and 0 otherwise. *RE/TE* is the ratio of retained earnings (RE) to common stockholders' equity (CEQ). *TE/TA* is the ratio of common stockholders' equity (CEQ) to total assets (AT). *ROA* is return on assets, computed as ratio of net income before extraordinary items (IB) to total assets. *SGR* is logarithmic sales growth, computed as $\log(SALE_t/SALE_{t-1})$. *SIZE* is the natural logarithm of total assets in millions of $US. *CH/TA* is the ratio of cash and short-term investments (CHE) to total assets (AT). Δ*ROA* is the change in *ROA* from year *t*-1 to year *t*. *p*-values based on standard errors clustered by firm are reported in parentheses.*, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

**Table 8. Family firms and dividend payout during the 2008-2009 global financial crisis**

| | (1) |
|---|---|
| *FAMILY* | -0.032 |
| | (0.206) |
| *FAMILY×D(2008-2009)* | -0.092*** |
| | (0.000) |
| *RE/TE* | 0.204*** |
| | (0.000) |
| *TE/TA* | -0.075 |
| | (0.269) |
| *ROA* | -0.288 |
| | (0.154) |
| *SGR* | -0.160*** |
| | (0.000) |
| *SIZE* | 0.027*** |
| | (0.001) |
| *CH/TA* | 0.228** |
| | (0.018) |
| Intercept | -0.092 |
| | (0.459) |
| Country effects | Yes |
| Industry-year effects | Yes |
| N | 4,285 |
| Pseudo-$R^2$ | 0.116 |

This table presents fixed effects Tobit regression results. The dependent variable is *DIV/E*, dividend payout defined as the ratio of cash dividends (DV) to net income before extraordinary items (IB). DIV/E is set to 1 if cash dividends are larger than net income, and to 0 for negative net income firms that do not pay cash dividends. The independent variables are as follows. *FAMILY* is a dummy variable set to 1 if the largest ultimate owner at the 10% threshold is a family, and 0 otherwise. *D(2008-2009)* is a dummy variable set to 1 for years 2008 and 2009, and 0 otherwise. *RE/TE* is the ratio of retained earnings (RE) to common stockholders' equity (CEQ). *TE/TA* is the ratio of common stockholders' equity (CEQ) to total assets (AT). *ROA* is return on assets, computed as ratio of net income before extraordinary items (IB) to total assets. *SGR* is logarithmic sales growth, computed as $\log(SALE_t/SALE_{t-1})$. *SIZE* is the natural logarithm of total assets in millions of $US. *CH/TA* is the ratio of cash and short-term investments (CHE) to total assets (AT). *p*-values based on standard errors clustered by firm are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

**Table 9. Family firms, cash holdings, and investment**

| | *CH/TA* | | *CAPX/TA* | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| *FAMILY* | -0.006 | -0.006 | 0.002 | 0.002 |
| | (0.410) | (0.405) | (0.534) | (0.583) |
| *FAMILY*×Δ*ROA* | | -0.176*** | | -0.084*** |
| | | (0.000) | | (0.000) |
| *RE/TE* | -0.014*** | -0.016*** | 0.000 | -0.000 |
| | (0.004) | (0.001) | (0.844) | (0.888) |
| *TE/TA* | 0.192*** | 0.188*** | -0.007 | -0.008 |
| | (0.000) | (0.000) | (0.368) | (0.307) |
| *ROA* | 0.307*** | 0.346*** | 0.062*** | 0.077*** |
| | (0.000) | (0.000) | (0.002) | (0.000) |
| *SGR* | -0.008 | -0.008 | 0.007** | 0.007** |
| | (0.204) | (0.193) | (0.014) | (0.013) |
| *SIZE* | -0.006** | -0.006** | 0.001 | 0.001 |
| | (0.021) | (0.021) | (0.487) | (0.453) |
| *CH/TA* | | | -0.068*** | -0.070*** |
| | | | (0.000) | (0.000) |
| Intercept | 0.091*** | 0.092*** | 0.065*** | 0.065*** |
| | (0.006) | (0.006) | (0.000) | (0.000) |
| Country effects | Yes | Yes | Yes | Yes |
| Industry-year effects | Yes | Yes | Yes | Yes |
| N | 4,285 | 4,272 | 4,279 | 4,266 |
| Adj. $R^2$ | 0.240 | 0.244 | 0.112 | 0.116 |

This table presents fixed effects regression results. In columns 1 and 2, the dependent variable is *CH/TA*, the ratio of cash and short-term investments (CHE) to total assets (AT). In columns 3 and 4, the dependent variable is *CAPX/TA*, the ratio of capital expenditures (CAPX) to total assets (AT). The independent variables are as follows. *FAMILY* is a dummy variable set to 1 if the largest ultimate owner at the 10% threshold is a family, and 0 otherwise. *RE/TE* is the ratio of retained earnings (RE) to common stockholders' equity (CEQ). *TE/TA* is the ratio of common stockholders' equity (CEQ) to total assets (AT). *ROA* is return on assets, computed as ratio of net income before extraordinary items (IB) to total assets. *SGR* is logarithmic sales growth, computed as $\log(SALE_t/SALE_{t-1})$. *SIZE* is the natural logarithm of total assets in millions of $US. *p*-values based on standard errors clustered by firm are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

**Table 10. Robustness to alternative payout variables**

| | *DIV/A* | *DIV/S* | *TOTP/E* |
|---|---|---|---|
| | (1) | (2) | (3) |
| *FAMILY* | -0.006*** | -0.007* | -0.039** |
| | (0.003) | (0.098) | (0.045) |
| *RE/TE* | 0.010*** | 0.021*** | 0.050** |
| | (0.000) | (0.000) | (0.012) |
| *TE/TA* | -0.002 | 0.075*** | 0.060 |
| | (0.789) | (0.000) | (0.245) |
| *ROA* | 0.358*** | 0.364*** | -1.390*** |
| | (0.000) | (0.000) | (0.000) |
| *SGR* | -0.019*** | -0.034*** | -0.122*** |
| | (0.000) | (0.000) | (0.000) |
| *SIZE* | 0.000 | 0.008*** | 0.009 |
| | (0.625) | (0.000) | (0.191) |
| *CH/TA* | 0.034*** | 0.027 | 0.253*** |
| | (0.001) | (0.204) | (0.000) |
| Intercept | -0.025** | -0.115*** | 0.291*** |
| | (0.025) | (0.000) | (0.007) |
| Country effects | Yes | Yes | Yes |
| Industry-year effects | Yes | Yes | Yes |
| N | 4,285 | 4,285 | 4,285 |
| Pseudo-$R^2$ | -0.248 | -0.265 | 0.276 |

This table presents fixed-effects Tobit regression results. In column 1, the dependent variable is *DIV/A*, the ratio of cash dividends (DV) to total assets (AT). In column 2, the dependent variable is *DIV/S*, the ratio of cash dividends (DV) to sales (SALE). In column 3, the dependent variable is *TOTP/E*, total payout defined as the ratio of the sum of cash dividends (DV) and stock repurchases (PRSTKC) to net income before extraordinary items (IB). *TOTP/E* is set to 1 if total payout is larger than net income. *TOTP/E* is set to 0 for negative net income firms that do not pay cash dividends nor repurchase shares. The independent variables include: *FAMILY* is a dummy variable set to 1 if the largest ultimate owner at the 10% threshold is a family, and 0 otherwise. *RE/TE* is the ratio of retained earnings (RE) to common stockholders' equity (CEQ). *TE/TA* is the ratio of common stockholders' equity (CEQ) to total assets (AT). *ROA* is return on assets computed as ratio of net income before extraordinary items (IB) to total assets. *SGR* is logarithmic sales growth computed as $\log(SALE_t/SALE_{t-1})$. *SIZE* is the natural logarithm of total assets in millions of $US. *CH/TA* is the ratio of cash and short-term investments (CHE) to total assets (AT). *p*-values based on standard errors clustered by firm are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

**Table 11. Robustness to sample composition**

| | Panel A. Results after sequentially excluding each country | | | | | | | | | Panel B. Weighted regression |
|---|---|---|---|---|---|---|---|---|---|---|
| | Hong Kong | Indonesia | Japan | Korea | Malaysia | Philippines | Singapore | Taiwan | Thailand | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| *FAMILY* | -0.089*** | -0.111*** | -0.104*** | -0.100*** | -0.092*** | -0.085*** | -0.099*** | -0.072*** | -0.082*** | -0.068** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.005) | (0.001) | (0.013) |
| *RE/TE* | 0.201*** | 0.195*** | 0.217*** | 0.190*** | 0.192*** | 0.183*** | 0.178*** | 0.187*** | 0.178*** | 0.207*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| *TE/TA* | -0.050 | -0.134* | -0.014 | -0.019 | -0.067 | -0.123* | -0.080 | -0.122 | -0.079 | -0.041 |
| | (0.487) | (0.066) | (0.860) | (0.803) | (0.388) | (0.076) | (0.292) | (0.102) | (0.299) | (0.588) |
| *ROA* | -0.187 | -0.172 | -0.085 | 0.069 | -0.068 | -0.173 | -0.115 | -0.171 | -0.227 | -0.263 |
| | (0.384) | (0.424) | (0.684) | (0.738) | (0.744) | (0.388) | (0.593) | (0.423) | (0.299) | (0.211) |
| *SGR* | -0.186*** | -0.171*** | -0.167*** | -0.172*** | -0.154*** | -0.175*** | -0.155*** | -0.183*** | -0.169*** | -0.156*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| *SIZE* | 0.017** | 0.013* | 0.033*** | 0.021*** | 0.025*** | 0.011 | 0.019*** | 0.021*** | 0.035*** | 0.037*** |
| | (0.018) | (0.084) | (0.000) | (0.009) | (0.001) | (0.119) | (0.009) | (0.004) | (0.000) | (0.000) |
| *CH/TA* | 0.120 | 0.156 | 0.170 | 0.118 | 0.067 | 0.138 | 0.200** | 0.132 | 0.268*** | 0.236** |
| | (0.220) | (0.114) | (0.101) | (0.234) | (0.500) | (0.141) | (0.049) | (0.216) | (0.008) | (0.027) |
| Intercept | 0.149 | 0.203* | -0.019 | 0.064 | 0.035 | 0.232** | 0.151 | 0.138 | -0.005 | -0.190 |
| | (0.175) | (0.064) | (0.881) | (0.580) | (0.745) | (0.034) | (0.188) | (0.200) | (0.965) | (0.131) |
| Country effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry-year effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| N | 3,847 | 3,882 | 3,751 | 3,827 | 3,721 | 4,024 | 3,846 | 3,620 | 3,762 | 4,285 |
| Pseudo-$R^2$ | 0.0938 | 0.0952 | 0.0863 | 0.0933 | 0.0945 | 0.0888 | 0.0884 | 0.0994 | 0.103 | 0.120 |

This table presents fixed effects Tobit regression results. The dependent variable is *DIV/E*, dividend payout defined as the ratio of cash dividends (DV) to net income before extraordinary items (IB). *DIV/E* is set to 1 if cash dividends are larger than net income. *DIV/E* is set to 0 for negative net income firms that do not pay cash dividends. The independent variables are as follows. *FAMILY* is a dummy variable set to 1 if the largest ultimate owner at the 10% threshold is a family, and 0 otherwise. *RE/TE* is the ratio of retained earnings (RE) to common stockholders' equity (CEQ). *TE/TA* is the ratio of common stockholders' equity (CEQ) to total assets (AT). *ROA* is return on assets, computed as ratio of net income before extraordinary items (IB) to total assets. *SGR* is logarithmic sales growth, computed as $\log(SALE_t/SALE_{t-1})$. *SIZE* is the natural logarithm of total assets in millions of $US. *CH/TA* is the ratio of cash and short-term investments (CHE) to total assets (AT). Panel A presents regressions that sequentially exclude each country from the sample. Panel B shows weighted regressions where the weights equal the inverse of the number of observations in each country. *p*-values based on standard errors clustered by firm are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.