Does Family Control Matter? International Evidence from the 2008-2009 Financial Crisis[*]

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ABSTRACT

We study whether and how family control affects valuation and corporate decisions during the 2008-2009 financial crisis using a sample of more than 8,500 firms from 35 countries. During a financial crisis, controlling families may experience liquidity shocks and increasing risk aversion. Thus, they may have greater incentives than in normal times to use their power to cut productive investment or divert resources at the expense of minority shareholders. Our results support this view. Relative to other firms, family-controlled firms underperform and reduce their capital expenditures during the global financial crisis. We also find that financial constraints effectively limit conflicts of interest in family-controlled firms. Family firms with financial slack underperform most, while constrained family firms do not underperform. Our tests also show that non-family blockholder control is on net beneficial during the crisis, particularly for constrained firms.

JEL Classification: G01, G14, G32

1. Introduction

Whether family control is beneficial for all shareholders or serves the family's best interest at the expense of outside shareholders is still unclear, despite much research on this issue.[1] In this paper, we shed new light on this topic by studying, around the world, whether and how family control affects valuation and corporate decisions during the 2008-2009 financial crisis.

For family-controlled firms, the financial shock of the crisis is likely to magnify the inherent conflict of interest between the family and minority shareholders. For instance, a controlling family may use corporate resources to meet a personal liquidity need; or it may become overly cautious because of risk aversion and lack of diversification. In either case, a family may use its control to cut productive investment or divert resources to itself against the interest of minority shareholders. Doing so may lead to the underperformance of family firms during the crisis compared to widely held firms. Firms can also be controlled by entities other than families. Relative to families, these entities are less likely to need extra liquidity or to become more risk averse during the crisis. Therefore, family-controlled firms are also likely to underperform during a crisis relative to firms controlled by a non-family entity.

We test these hypotheses using a sample of more than 8,500 non-financial firms from 35 countries. Our data allow us to trace direct and indirect shareholdings internationally to determine for each firm whether it is controlled by a family blockholder, is controlled by a non-family blockholder, or is widely held.

To assess the impact of the crisis on valuation, we compute buy-and-hold crisis period returns following the Lehman Brothers collapse and compare family firms with both widely-held firms and firms controlled by non-family blockholders. Our results show that across countries

[1] See Morck, Wolfenzon, and Yeung (2005) for a comprehensive survey.

family-controlled firms underperform relative to other firms during the global financial crisis, controlling for firm, industry and country characteristics. In our baseline specification, crisis period returns for family firms are 1.4 percentage points lower than for widely-held ones and 3.3 percentage points lower than for firms with a non-family controlling blockholder. This underperformance is economically meaningful and is robust to alternative event windows and alternative definitions of family firms.

Next, we explore the corporate actions that might lie behind this performance differential during the crisis. First, we find no significant differences in financing policies or access to finance between family firms and other firms. Specifically, during the crisis family-controlled firms do not behave differently than other firms in terms of cash holdings, dividend policy, leverage, debt maturity, credit lines, and equity issues. Second, we examine investment policy and find that family firms do make different decisions in this area. Specifically, family-controlled firms reduce their capital expenditures to assets ratio by 0.5 percentage points relative to both widely-held firms and non-family controlled firms. In our sample, the median ratio of capital expenditures to assets is 4%; thus, this decline in new investment for family-controlled firms is economically significant.

Overall, this evidence points toward a conflict-of-interest explanation for the underperformance of family-controlled firms during the crisis. Namely, family firms appear to use their power to cut capital spending, possibly in order to retrench, to the detriment of minority shareholders. Outside shareholders anticipate these shifting incentives on the part of family blockholders, causing the share price to decrease.

We test this explanation further by conditioning on firm-level financial constraints. Following the Jensen (1986) argument, the discretion of the controlling family to govern the firm in its own interest will crucially depend on whether the firm is financially constrained or has

financial slack at the onset of the crisis. If the firm is financially constrained, the additional stress resulting from the crisis would seriously limit the actions that the controlling family can take. In such firms, the conflict of interest between controlling and minority shareholders is likely to be small. If instead firms have financial slack, the impact of conflicts of interest between a controlling family and minority shareholders is magnified because in a firm with slack the family still has discretion over how it uses corporate resources and may now have a greater desire to use such discretion given personal liquidity needs.

Consistent with this prediction, we find that the underperformance of family-controlled firms is concentrated in only those firms that have financial slack. Within firms with financial slack, those controlled by a family underperform other firms during the crisis by 2.0 to 3.3 percentage points, depending on the definition of financial slack used. Importantly, family firms that are financially constrained do not underperform relative to widely held firms. Also important, we find that financially constrained firms that are controlled by a non-family blockholder outperform other firms by 2.1 to 5.3 percentage points, depending on the definition of financial constraints used. This latter finding indicates that non-family blockholders provide a benefit to constrained firms during the crisis.

We further test whether implicit contracting by family firms may at least in part explain family firm underperformance. Sraer and Thesmar (2007), Bach and Serrano-Velarde (2009), and Mueller and Philippon (2011) argue that family firms are unique because they maintain implicit contracts with their stakeholders, particularly their employees. Thus, the crisis period underperformance we observe could be due to constraints imposed by these implicit contracts. However, we find no support for this implicit-contract explanation because family-controlled firms engage in significantly more layoffs and labor cost reductions compared to widely-held firms (non-family blockholder-controlled firms do so as well).

Finally, following the law and finance literature, we use a variety of country-level measures to test whether the strength of our results depends upon the prevailing level of governance in a country. While one might expect family firms to perform worst where country-level institutions are weakest, we do not find this to be the case. Rather, for this crisis, which was truly global in nature, the underperformance of family firms is consistently distributed around the world, as is the superior performance of firms controlled by an entity other than a family.

Our results make several contributions to the literature. First, we show that family control, relative to other types of control, negatively impacts outside shareholders around the world during a major financial shock. To our knowledge, we are the first to document this result. This finding is robust to a range of assumptions about what constitutes family control and about how long the shock lasted. Prior research by Lemmon and Lins (2003) has shown a similar effect for managerial control (but not for family control) and has done so only in East Asian emerging markets. We also show that this conflict of interest obtains only for firms with financial slack. This is consistent with the argument in Villalonga and Amit (2006) that the family – as one homogeneous group of individuals who know each other well and share the same values and traditions – can easily coordinate to use corporate resources for their own interest when such resources are available. We further note that while family firms do not always underperform relative to widely held firms (that is, family firms perform similarly to widely-held firms when they enter the crisis financially constrained), they *always* underperform relative to non-family controlled firms.

Second, our study contributes to the analysis of the real effects of the 2008-2009 financial crisis around the world. Several papers have documented a significant reduction in real investment for U.S. firms as a result of the financial crisis (Campello, Graham, and Harvey (2010), Duchin, Ozbas, and Sensoy (2010), Ivashina and Scharfstein (2010), Kuppuswamy and

Villalonga (2010)). Campello et al. (2012) extend this analysis to European firms. We are the first to examine how the effects of the crisis differ between family and non-family firms, around the world. We find that family-controlled firms reduce capital investment significantly more than all other firms. Our result complements the evidence in Masulis, Pham, and Kein (2011), who find that during the (normal business conditions) time period of 2002-2006 firms that are family controlled tend to invest more, using the resources of the family group to accomplish this. We find that in the recent crisis period any such financing advantage did not appear to carry over. The underinvestment of family controlled firms during the crisis is also consistent with prior work by Faccio, Marchica, and Mura (2011) who show that firms controlled by undiversified shareholders undertake less risky investments than firms controlled by diversified shareholders. Because families are likely to be less diversified than other types of shareholders, they may be more risk averse and thus more conservative during the crisis.

Third, we show that non-family blockholders are on net beneficial during a financial shock, a result that we also believe has not been previously documented in the literature. A large body of research argues that such benefits may accrue as a result of access to financing, help in product markets, or monitoring.[2] We conclude that non-family blockholders relax constraints in some fashion, because non-family controlled firms have higher crisis period returns only when these firms enter the crisis being financially constrained. We note that our tests show non-family controlled firms do not obtain more external financing during the crisis relative to other firms. The benefit of non-family control during the crisis may therefore be along the lines of internal financing, help in product markets, or monitoring.

[2] Blockholders have been argued to facilitate access to internal and external financing (e.g. Wruck (1989), Hertzel and Smith (1993), Winton (1993), and Weinstein and Yafeh (1998)), help in product markets (Khanna and Palepu (1997, 2000)), and provide monitoring (e.g. Shleifer and Vishny (1986), Burkart, Gromb and Panunzi (1997), and Maug (1998)).

Finally, while our research focus is deliberately on the impact of family control during a financial shock, our empirical strategy of using the crisis as a natural experiment allows us to sidestep endogeneity concerns that are typical in this literature and which make it difficult to identify the importance of blockholder control for firm value (e.g. Demsetz and Lehn (1985), Himmelberg, Hubbard and Palia (1999) and Zhou (2001)). In our setting, the unanticipated and exogenous financial shock abruptly disrupts the equilibrium, while blockholder control remains fixed at least in the short term. This allows us to explicitly observe how investors adjust their valuations of firms with different types of blockholders.

The structure of the remainder of the paper is as follows. In section 2, we present the data used in our study and provide summary statistics. The empirical analysis is contained in section 3, where we consider the relation between family control and firm value during the crisis, explore several robustness tests, and analyze corporate actions during the crisis. Section 4 concludes.

2. Sample and Summary Statistics

We begin our sample construction by selecting all non-financial firms (i.e., SIC codes 6000-6999 are excluded) from Worldscope-Datastream that were publicly traded as of December, 2006, in order to obtain a sample of firms that were listed prior to the onset of the financial crisis. We match these firms with all firms in Osiris, a global database of listed firms with detailed shareholder structure data. We exclude firms with total assets below US$ 10 million or negative book equity, negative assets, negative cash, or negative debt, as of December 2006. Further, we keep only those firms that have non-missing data for all variables needed for our baseline

empirical specification. Finally, we also drop all U.S. firms and all countries with fewer than 25 firms.[3] Our final sample contains 8,854 firms from 35 countries.

2.1 Descriptive statistics

Table 1 provides descriptive statistics for our main variables. All non-binary variables are winsorized at the 1st and 99th percentiles. We summarize these variables below.

The median firm in our sample is somewhat small, with total assets of $239 million and a market value of equity of $220 million. Firms are not highly levered entering the crisis, with median (book) leverage measured as total debt to total assets equal to 17 percent. Momentum, i.e. the firm's stock return over the year preceding August 2008, is negative and large at -26 percent for the median firm and it is -5 percent even for the best performing quartile of firms. Liquidity is measured as the percentage of days with non-zero stock returns during the one-year period preceding September 2008: for the median firm in our sample it is 97 percent, and it decreases to 87 percent for the lowest quartile of firms. Freefloat, i.e. the percentage of outstanding shares not held by blockholders, for the median firm in our sample is 57 percent. We collect this measure independently from Datastream and Osiris. The two measures are highly correlated but not identical, presumably because of small measurement differences, and we use an average of the two. About 1.4 percent of firms are cross-listed on a main exchange in the U.S. (ADR data are from BNY Mellon, Citigroup, Deutsche Bank and JP Morgan) and the majority of firms are contained in MSCI indices.

The median firm has cash holdings of 11 percent of assets. Book-to-market is the ratio of the book value of equity to the market value of equity and the sample median for this measure is

[3] The law and finance literature has convincingly shown that the agency conflicts that shape the relation between firm value and ownership are likely to depend on countries' institutional structures (La Porta et al. (1998)), and are more likely to be a first-order effect in samples of non-U.S. firms (La Porta, Lopez-de-Silanes, and Shleifer (1999) and Claessens et al. (2002)).

0.53. Profitability is the ratio of operating profit (EBITDA) to total assets, which has a median of 6 percent. Investment, measured as the ratio of capital expenditures to total assets, has a median value of 4 percent.

Our main performance measure is *crisis period return*, which is the buy-and-hold stock return of the firm over the crisis period, where the crisis period begins in August 2008 and ends in March 2009. We consider March 2009 to be the end of the crisis period, as global markets reached their lowest point then and recovered afterwards.[4] We use monthly returns based on the middle of each month, therefore crisis period returns are from mid-August 2008 to mid-March 2009. As shown in Table 1, the buy-and-hold crisis-period return for the median firm in our sample is minus 41 percent, and is still strongly negative (minus 23 percent) for the top quartile of performance.[5]

2.2 Controlling Blockholders

When studying the impact of families on firm performance, it is well established that this relation depends on control, rather than on shareholder concentration, as control is enhanced with mechanisms such as dual class shares and pyramids, which form wedges between cash flow and voting rights, particularly in less developed financial markets and in countries with weaker investor protection (Zingales (1994), La Porta, Lopez-de-Silanes, and Shleifer (1999), Claessens et al. (2002), Faccio and Lang (2002), Volpin (2002), Lins (2003)). Data requirements for a meaningful analysis of the effects of blockholder control are high, and availability of such data across countries has in the past been quite limited. With the Osiris database we are able to use a set of detailed firm ownership links that allow us to determine with a high degree of precision the

[4] The MSCI World Total Return Index reached its lowest point on 9 March 2009 following the Lehman Brothers bankruptcy.

[5] In robustness tests in Section 3.2, we alternatively consider both shorter and longer fixed-length event windows as well as country-specific event windows.

ownership structure for all firms in our sample and to trace shareholdings (of blockholders) across countries. Importantly, it allows us to separate different types of controlling blockholders using a procedure described below.

Our analysis is based on the December 2006 issue of the Osiris dataset, published by Bureau van Dijk. We choose that date because there was little, if any, speculation that a global financial crisis loomed on the horizon at that point in time. Key to our analysis is the identification of whether a firm has an ultimate controlling blockholder and if so, whether the blockholder is a family. In the simplest cases, the ultimate owner has a direct stake in the firm under investigation and Osiris data on direct shareholdings is enough to identify this blockholder. In more complex cases, however, the ultimate owner has an indirect stake in the firm under investigation, and thus identification of the ultimate owner requires tracing controlling stakes through potentially many layers between the firm and its ultimate owner. We utilize a unique feature of the data–the provision of shareholding links for every firm–to trace ultimate controlling blockholders for all firms in our sample.[6]

The Osiris database assigns identifiers to firms and shareholders, where shareholders can be virtually any type of legal person. The database identifies ownership by limited and unlimited liability firms, public and private firms, cooperatives, foundations, individuals and families, and municipalities and states. Also, as mentioned, the links between firms and shareholders are traced internationally. The construction of these ownership links is typically complex and is explained in a detailed technical document. To conserve space, we limit our discussion to two aspects: i) the

[6] According to Bureau van Dijk, the shareholding links contained in their database have been built up over several years, relying on a large number of public and semi-public sources, and at the time of our study it contained 6.69 million such links. Bureau van Dijk maintains the link database dynamically, updating it with new information when it becomes available. Therefore the database represents snapshots of the international web of shareholder structures at relatively precise points in time.

way control is traced, and ii) how we identify whether a firm has a family as the ultimate controlling blockholder.

Osiris traces control by calculating voting rights but not cash-flow rights, and refers to entities as the ultimate owners of a firm if the entity controls the firm directly at a defined threshold or via a control chain whose links all exceed that threshold. The threshold in the December 2006 version of Osiris can be configured to be 25 or 50 percent, and we set it to 25 percent.[7]

Using the 25 percent threshold, we rely on Osiris to separate firms into the following three categories: (i) widely held; (ii) ultimately controlled by a family; and (iii) ultimately controlled by a non-family entity. A widely held firm is a company that is known by Osiris to have no ultimate owner at the 25 percent threshold of control. A firm that is ultimately controlled by a family is one in which Osiris traces ultimate ownership such that the stake of the family in aggregate exceeds the 25 percent threshold. Note that in compiling the data Osiris keeps track of multiple family members and differences in last names. A non-family controlled firm is one in which Osiris either identifies an ultimate owner at the 25 percent threshold that is not affiliated with a family, such as firms that are themselves widely held, state owners, non-family-controlled foundations, and so forth; or one that is known to have multiple blockholders that collectively exceed the 25 percent threshold (so the firm is not widely held), but individually do not control the firm at the 25 percent threshold.

[7] Blockholder definition thresholds vary in the literature, and our more restrictive approach classifies relatively more firms as widely held. Some prior studies focusing on family control use slightly lower thresholds (e.g. 20% in Faccio and Lang (2002), or no threshold but restrict family definitions to founding families (e.g. Anderson and Reeb (2003) and Villalonga and Amit (2006)). In robustness tests, which we describe later, we lower the threshold for family control and find our results to be unaffected.

As Table 2 shows, the median firm in our sample is widely held, as 64 percent of firms have no ultimate controlling blockholder. Eleven percent of firms are family controlled, and 25 percent are non-family controlled.

The table also provides a country-level breakdown of ownership characteristics. As has been shown extensively in prior research, there is significant variation in control structures of listed firms across countries. Among the larger economies, firms are most likely to be widely held in Japan, Taiwan, the United Kingdom, and Australia while blockholders are most likely in Turkey, Italy, France and Germany. Similarly, among the larger economies family blockholders are most common in France, Italy, Germany, Hong Kong, and South Korea; while they are rare in Taiwan, Japan, Taiwan, Thailand, Canada, and Australia.

2.3 Pre-crisis characteristics

One potential concern for our later analyses is that differences in types of control are systematically related to differences in firm characteristics *before* the crisis. If this is the case, then differences in firm characteristics rather than differences in types of control might explain any differential impact that the crisis has on firms. Because of this, it is crucial to identify whether such differences exist and to account properly for such differences in our analyses.

We will rely on cross-sectional regressions (for the analysis of crisis return) and panel regressions (for the analysis of corporate decisions), where we control for firm characteristics such as size, profitability, leverage, liquidity, and cash to separate the effects of firm characteristics from the effects of control structures. Doing so may not be sufficient, however, if control structures and financial characteristics of a firm are interdependent. For example, prior evidence suggests that such selection bias could arise, as family firms have been shown to have lower leverage (Villalonga and Amit (2006)) and larger cash holdings (Kalcheva and Lins

(2007)) than other firms; and if so might therefore fare better in a financial shock. Thus, to set the stage for our upcoming tests we analyze the financial characteristics of our sample firms prior to the crisis.

The results are shown in Table 3, where we report unadjusted and industry-adjusted firm size (measured both as total assets and market capitalization), leverage, short-term borrowing, cash holdings, investment, and profitability for our sample firms, broken down by blockholder categories, as of December 2006. The table shows that, controlling for industry, the only significant difference between family-controlled firms and other firms is size. Family firms are smaller than both widely-held firms and non-family controlled firms. As mentioned in the previous paragraph, we control for firm size (as well as many other firm characteristics) to alleviate concerns that differences in size or other characteristics may be an omitted variable at the source of the differences in performance and investment that we uncover between family firms and other firms. In further robustness checks regarding firm size, we will confirm that the differences between family and non-family firms remain if we restrict the overall sample to firms within the 95th percentile of the size range of family firms (in Section 3.2) and also if we restrict the overall sample to a homogenous subset of small firms (in Section 3.5).

3. Empirical Analysis

In this section we present our empirical results. We begin by providing results for our baseline crisis-period-return regressions and we then test the robustness of our results by varying event windows and blockholder classifications. Further, we extend our analysis in three ways: we consider the effect of family blockholders on financing and investment decisions, on layoffs and labor costs, and on the performance of financially constrained and unconstrained firms.

3.1 Baseline results

We estimate the following baseline specification:

$$Ret_{crisis,i} = \alpha + \beta' \times Block_i + \gamma' \times X_i + \lambda_{1,SIC2} + \lambda_{2,Market} + \varepsilon_i, \quad (1)$$

where $Ret_{crisis,i}$ is the crisis period return for stock *i*, *Block* is a vector of indicator variables which characterize the control structure of a firm, X_i refers to a set of firm-specific control variables (which include the firm's size as measured by the (log of) market capitalization,[8] leverage, short term borrowing, beta, momentum, liquidity, MSCI inclusion, freefloat, cross-listing, cash holdings and book-to-market ratio, all of which are described in section 2 and $\lambda_{1,SIC2}$ and $\lambda_{2,Market}$ are two-digit SIC code and country fixed effects, respectively. As previously described, crisis period returns $Ret_{crisis,i}$ are buy-and-hold stock returns of each firm *i*, calculated from mid-August 2008 to mid-March 2009. In all regressions, we follow Petersen (2009) and cluster standard errors by country, as our firm level variables, including crisis period returns, are likely to be correlated between firms within a country.[9]

The regression results for our baseline empirical specification (1) are reported in Table 4. In column 1, we conduct an initial test that uses an indicator variable for whether (1) or not (0) there is a controlling blockholder of any type. Using this coarse measure of control, we find that firms controlled by any type of blockholder performed marginally better during the crisis compared to widely-held firms. The estimated coefficient is statistically different from zero at the

[8] We also estimate our models using the log of a firm's total assets as a size control. All of our results hold if we estimate such models (not reported for the sake of brevity). We prefer to report models that control for firm size using the market value of equity because our dependent variable is directly tied to it.

[9] An alternative clustering method is to cluster by country-industry, which assumes no correlation between firms in different industries in the same country. Because of the comprehensive nature of the financial crisis, we believe that such correlations are likely to exist and, if true, country-industry clustering will produce standard errors that are too low, even if this effect is mitigated by our inclusion of country fixed effects. When we re-estimate our regressions and cluster standard errors by country-industry, rather than by country, standard errors of our point estimates typically decline. To be conservative, we report all of our results with country clustering.

ten percent level. Coefficients on the control variables used in our regressions show that firms tended to perform better during the crisis if they were larger, had stronger momentum, lower systematic risk, lower leverage, and were not part of an MSCI index.

In column 2, we begin tests that directly assess our predictions regarding family control, in which we include two indicator variables to distinguish between blockholder types: firms with a family as the controlling blockholder and firms that do not have a family as the controlling blockholder, but instead are either controlled by a single non-family blockholder or are controlled by multiple blockholders. We find that during the crisis firms controlled by a family perform worse than widely-held firms, while firms with other types of blockholders perform better than widely-held firms. Both differences are strongly statistically significant (at the one percent significance level). In terms of economic significance, family-controlled firms have crisis period returns that are 1.4 percentage points lower than widely-held firms; while firms controlled by other types of blockholders have returns that are 1.9 percentage points higher than widely-held firms.[10]

The results in column 1 show that a general distinction between firms that are widely held and those that have a controlling blockholder does not reveal large differences between these groups of firms. However, once blockholders are classified into the family and non-family category in later models, a clear distinction emerges. Family blockholders are associated with a significantly lower performance during the crisis, relative to widely held firms, while firms with non-family blockholders experience significantly higher performance compared to widely held

[10] In unreported regressions, we further distinguish between firms with non-family blockholders and firms with multiple blockholders by breaking the non-family blockholder indicator into two categories: one for firms with a single non-family blockholder and another for firms with multiple blockholders. Bennedsen and Wolfenzon (2000) show how having several large blockholders forces them to form coalitions to exercise control, which can result in more efficient actions, and Laeven and Levine (2008) find that firms with multiple large blockholders have different valuations than other firms. We find that each of the two non-family blockholder categories are associated with higher crisis period returns, and we do not find a statistically significant difference between firms with a single non-family blockholder and those with multiple blockholders. Hence, we choose to adopt the simpler classification inwhich firms are either family controlled or non-family controlled.

firms. This set of regression models thus shows that family control negatively impacts outside shareholders around the world during a major financial shock, a finding that is new to the literature.[11]

3.2 Robustness Checks

Next, we perform four sets of robustness tests, in which we consider whether the survival of firms during the financial crisis, the event windows over which crisis period returns are calculated, our definition of what constitutes a family-controlled firm, or size differences between firms influence the results.

3.2.1 Firms that do not survive the 2008-2009 financial crisis

One possible explanation for the underperformance of family-controlled firms might be that we require data availability throughout the financial crisis. This excludes firms that do not survive the crisis period, which are likely to be the worst performers. If family firms are more likely to survive, our finding that family firms underperform may be due to their poor but not catastrophic performance being captured in our sample, whereas other firms' catastrophic performance is not captured because such firms do not survive and are thus not included in the sample. To analyze whether non-survival is related to whether a firm has a controlling blockholder, we perform the following test. First, in our baseline sample of 8,584 firms we identify all firms that do not survive as listed firms until the end of 2009, where non-survival is based on return data

[11] Lemmon and Lins (2003) study eight East Asian emerging market countries and find that high managerial control is associated with lower stock returns during the region's 1997 financial crisis. Our results during the unexpected "event" of the financial crisis are consistent with a number of other papers whose analyses indicate that families' interests are not always aligned with those of minority shareholders (see, for example, La Porta, Lopez de Silanes and Shleifer (1999), Claessens, Djankov, Fan, and Lang (2002), Faccio and Lang (2002), Volpin (2002), Lins (2003), Durnev and Kim (2005), Bennedsen et al. (2007), Bertrand et al. (2008), Almeida et al. (2011), Ellul, Pagano, and Panunzi (2011), Masulis, Pham and Zein (2001), and Franks et al. (2012)).

availability in Datastream and on flags that indicate firms that are no longer listed in later issues of OSIRIS (61 firms). Second, we add to this all firms that meet the data availability requirements of our baseline sample *except* the availability of price data for the crisis period (i.e. the firms delist between August 2008 and March 2009, 13 firms). This yields a total sample of 8,597 firms, of which 74 do not survive the financial crisis.[12]

In Table 5, we use this sample to estimate the determinants of non-survival, using both hazard rate and logit regression models. The dependent variable is whether the firm does not survive (1) or survives (0) between August 2008 and December 2009. We first estimate the non-survival regression using the Cox (1972) hazard model in column 1. The Cox hazard model is designed to accommodate the fact that each firm's hazard rate—being the (approximate) probability that a sample firm dies during the next month—is a function of the firm's survival time as well as other firm characteristics, and country and industry fixed effects. Second, as a robustness check, we repeat the regression using a logit regression in column 2. For each model, positive regression coefficients indicate a greater propensity for non-survival. The logit estimates exclude the cross-listing indicator and country and industry fixed effects because all cross-listed sample firms survive the crisis and most industries in most countries have zero firm deaths. As in the previous OLS regressions, standard errors are clustered by country.

The results show that, in line with our previous performance regressions, non-survival depends on firm characteristics. In both regressions, firms that are more likely to not survive have higher leverage, lower momentum, and lower liquidity and are not members of an MSCI index.

[12] The death rate of 0.86 percent over the August 2008 to December 2009 period is lower than the economic impact of the financial crisis might suggest, and several factors are likely to contribute to this. Few non-financial listed firms go bankrupt immediately during the crisis period, and bankruptcy does not necessarily lead to delisting, making bankruptcy difficult to identify reliably. Also, as previously described, our sample construction excludes firms that have negative book equity in 2006 from our baseline sample. While these firms might appear as likely candidates for non-survival during the crisis, all of them also have missing data for other variables needed for our baseline empirical specification, or are dropped for other reasons (e.g. having negative cash) and are thus not ever usable in our regressions. Finally, M&A activity, the primary reason for non-survival of firms during normal economic times, is unusually low during the crisis.

Controlling blockholders, however, do not affect whether or not a firm survives the financial crisis, and family firms are not more likely to survive than other firms. Thus, these tests do not provide support for an explanation that survival bias might be driving our performance results.

3.2.2 Alternative event windows

Next, in Table 6, we consider several alternative event windows. In columns 1 to 4, crisis period returns are calculated over 3 months, 5 months, 7 months (our baseline), and 9 months.

In the table, we estimate specification (1) using the returns on the three alternative event windows as dependent variables, while keeping everything else as in Table 4. In columns 2 and 4, we obtain results that are very similar to the ones in the baseline analysis reported in Table 4: when we distinguish across different blockholder types, we find that family-controlled firms performed 1.2 percentage points worse than widely-held firms, while non-family blockholder firms performed 1.4 to 1.8 percentage points better than widely-held firms. The results in column (1) for the 3-month period are statistically weaker and roughly half as large, suggesting that the impact of blockholder control on equity market value following the Lehman Brothers bankruptcy was not immediate.

Results become even more pronounced when we take into account that the speed of the impact of the financial crisis differed between countries. We do this in columns 5 and 6, where the duration of the crisis period, i.e. the time period over which crisis period returns are calculated, is determined separately for each country, using two different measures. In both measures, crisis period returns begin in the middle of August 2008. For the first measure, in column 5, the country-specific crisis return period ends in the month prior to the country's first positive monthly return, i.e. excluding the uptick month itself. For the second measure, in column

6, the crisis period ends in the month prior to the country's first *three* positive uptick months, representing a more pessimistic estimate of the length of the financial crisis.

The argument in favor of choosing country-specific crisis periods is that, as recent papers such as Beber and Pagano (2012) have shown, the financial crisis impacted markets differently. Figure 1 shows the wide variation across countries, regarding both the magnitude and the timing of the impact. By using a fixed-length window across all countries, independent of whether in that particular market prices are still falling, our results if anything should be biased against detecting any abnormal performance due to controlling blockholders. At the same time, an argument against choosing variable-length event windows is the potential endogeneity concern that market returns themselves are used to determine the period over which firms' equity market returns are measured.

The length of the post-Lehman-Brothers-bankruptcy downturn varies, with the median country in our sample experiencing 6 months of consistently negative returns. The shortest market downturns are concentrated in emerging markets, with 2 months (Brazil, Indonesia, and South Korea) and 3 months (Chile and Portugal) of consecutive negative returns, while most developed markets experienced downturns of 6 months.[13]

The results in column 5 and 6 using these country-specific crisis period returns as the dependent variable are again very similar to the ones in the baseline analysis reported in Table 4: when we distinguish across different blockholder types, we find that family-controlled firms performed 1.2 to 1.6 percentage points worse than widely-held firms, while non-family blockholders performed 1.9 to 2.3 percentage points better than widely-held firms.

To summarize, the coefficient on family blockholders is always negative and significant, while the coefficient for non-family blockholders is always positive and significant. Overall, the

[13] We arbitrarily set the length of the downturn to the sample median for Greece as its market did not experience any positive return between September 2008 and December 2010.

length of the event window does not seem to greatly affect results and we thus use our original dependent variable in the crisis-period-return regressions that follow.

3.2.3 Alternative definitions of family firms

To explore the robustness of our results to the definition of family firms, in Table 7 we consider several refinements of our blockholder classification method. Our main variable, *Family controlled*, identifies family firms based on the collective family shareholding according to Osiris. To see whether our results depend on the definition of family control, we add to the family-controlled group those firms where board members own a controlling stake, yet the firm is not previously classified as being family-controlled because the board members are not related or because their combined stake is below 25 percent. These firms are likely to be borderline cases of family control and might be classified as family firms in other studies. For this purpose we collect data on all board members of all sample firms (70,000 individuals), together with their direct and indirect shareholdings, and construct three adjustments to the definition of family control.

To facilitate comparison, we report in column 1 of Table 7 the base-case specification estimated in Table 4. In column 2, we extend the classification of family firms to additionally include as family firms those in which one or more board members controls at least 25 percent of voting rights (*Family-controlled alternative 1*). This reclassifies 122 firms as family-controlled. The result is virtually identical to our baseline result reproduced in column 1: family firms experienced worse performance during the crisis as compared with widely-held firms (-1.9 percentage points lower), while firms controlled by other blockholding entities experienced better performance than widely-held firms (1.9 percentage points higher). In columns 3 and 4, we relax the family control classification further by also considering as family firms those in which one or more board members control at least 20 percent of voting rights (*Family-controlled alternative 2*,

reclassifies 102 firms) and 10 percent of voting rights (*Family-controlled alternative 3*, reclassifies 107 firms), respectively, and find that our results remain virtually unchanged.

These results show that changes to the assumptions about which firms are family controlled do not affect the overall result that during a major financial shock family firms perform significantly worse than widely held firms, and non-family-blockholder controlled firms perform significantly better than widely held firms.

3.2.4 Restricting the sample to the size distribution of family firms

As an additional robustness test, we address whether differences in firm size may contribute to differences in performance between family firms and other firms. Our models control for firm size, but it is still important to understand whether the relative underperformance of family-controlled firms might be influenced by family firms being smaller overall than other firms. To test this, we restrict the sample to contain only firms that fall within the 0 to 95th percentile of the size distribution of family firms. The idea here is to remove firms that are unlikely to be family controlled because of their large size. This restriction drops 530 firms. With this smaller sample of 8,054 firms, we re-estimate our baseline regression in column 2 of Table 4 and find that our results remain unchanged. We obtain a significantly negative family-controlled coefficient of -0.015 (standard error is 0.006), and a significantly positive non-family-controlled coefficient of 0.020 (standard error is 0.008).

3.3 Financing and investment decisions

Given the results thus far, a natural question arises: What is the cause of the underperformance of family firms as compared to both widely-held firms and non-family controlled firms? To shed

light on this question, we investigate the financing and investment decisions of firms during the crisis. In Table 8, we assess whether family-controlled firms have different policies regarding cash holdings, dividends, leverage, short-term debt, credit lines, equity issues, and capital expenditures during the crisis relative to their industry peers. We do so by estimating panel regressions that include firm fixed effects and industry-year fixed effects (besides the usual firm-level controls). We estimate the following baseline specification:

$$Decision_{it} = \alpha + \phi' \times Block_i \times Crisis_t + \gamma' \times X_{it} + \lambda_{ct} + \lambda_i + \varepsilon_{it}, \quad (2)$$

where $Decision_{it}$ is a financing decision (in Panel A) or an investment decision (in Panel B) for firm i in year t, $Block_i$ is a vector of indicator variables which characterize the ultimate controlling blockholders (family versus non-family blockholders), $Crisis_t$ is an indicator variable that takes value 1 in the crisis years 2008 and 2009 and 0 otherwise (i.e., the years 2006 and 2007), X_{it} refers to a set of firm-specific control variables (which include (log of) firm size, leverage, profitability and Tobin's Q), λ_{ct} are industry-year fixed effects and λ_i are firm fixed effects. $Crisis_t$ is not included as a stand-alone variable in the model because it is subsumed by the industry-year fixed effects. The parameter of interest is ϕ which is intended to capture the change in either financing activity or investment activity for different types of controlling blockholders during the crisis. As in the previous cross-sectional regressions, standard errors are clustered by country.

In Panel A, we find that family-controlled firms do not differ in their crisis-period decisions about cash holdings, dividend policy, leverage, short-term debt, credit lines, or equity issues compared to other firms. Blockholders (independently of whether they are family or non-family ones) do not appear to have (or choose not to use) any preferential access to external

capital compared to widely-held firms. Collectively, these tests show that family-controlled firms' financing policies are not uniquely different during the crisis.

In Panel B, we consider investment. Interestingly, contrary to other firms, firms controlled by families significantly reduce investment during the crisis. We cannot distinguish whether this reduction in investment may be an indication of an increased risk-aversion by the controlling family or may be associated with an increase in diversion of resources for private benefit. It is also possible that families choose to cut investment during the financial shock to preserve their resources in order to lessen the risk that they will be unable to enjoy their benefits of control in the future. If any of these possible motivations are correct, these decisions to reduce investment during the crisis are likely to be against the interest of minority shareholders, and thus may at least partially account for our family-firm underperformance results (see Desai, Foley, and Forbes (2008) for evidence that incremental productive investments are frequently made during currency crises).

3.4 Implicit contracts, layoffs and labor costs

We next investigate whether a view put forth in the literature–that family firms may have a competitive advantage at offering implicit contracts to employees–might account for our results. The idea here is that family firms can better commit to honor long-term implicit contracts because the family reputation is at stake and the family's grip on control prevents hostile takeovers. Sraer and Thesmar (2007) show for French companies that employment is less sensitive to industry sales shocks in heir-managed firms; Bach and Serrano-Velarde (2009) find that family-promoted CEOs are associated with lower job turnover and less wage renegotiation; and Mueller and Philippon (2011) document that family ownership is more prevalent in countries

where labor relations are hostile, concluding that family firms are particularly effective at coping with difficult labor relations.

This view of family control suggests an alternative explanation for the finding that family firms are associated with weaker stock market performance during the crisis than firms with other control structures: family firms may be committed to maintain implicit contracts to employees. In other words, the poor stock price performance comes at the benefit of protecting employment. If this is the case, during the crisis one should observe fewer layoffs and lower levels of restructuring activity in family-controlled firms than in other firms. To test this hypothesis, we analyze restructuring activity of the firms in our sample during the crisis.

In Table 9, we focus on changes in labor costs and the size of the workforce. As before, we consider a differences-in-differences setup with yearly panel data from 2006 to 2009. Specifically, we estimate the following baseline specification:

$$Restructure_{it} = \alpha + \phi' \times Block_i \times Crisis_t + \gamma' \times X_{it} + \lambda_{ct} + \lambda_i + \varepsilon_{it}, \quad (3)$$

where $Restructure_{it}$ is either the reduction in the number of employees (which we term "layoffs") or the reduction in labor costs for firm *i* in year *t*, while $Block_i$, $Crisis_t$ are as in specification (2) as discussed earlier. In each regression we include firm fixed effects and industry-year fixed effects, as well as our previously employed control variables, and standard errors are clustered at the country level. The parameter of interest is ϕ which captures the change in restructuring activity for different types of controlling blockholders during the crisis.

The results in Table 9 are inconsistent with the view that family firms underperform because they maintain implicit contracts with their employees: during the crisis family firms are more likely (in column 1) or equally likely (in columns 2 to 4) to lay off employees and to reduce

labor costs relative to widely-held firms.[14] These results indicate that family firms may be exposed to a lack of liquidity during the crisis and unable to shield their employees from unemployment risk. Hence, we reject the view that family firms performed poorly during the crisis because they sustained implicit contracts with their employees. In fact, these contracts (if they exist) appear to be easy to renegotiate in a case of systematic, global shock such as the 2008-2009 crisis.

3.5 Firm-level differences in financial constraints

Our results thus far are consistent with the notion that market participants recognize that families have the ability to use their control to make discretionary decisions that benefit themselves at the expense of outside shareholders. To further assess this interpretation of our results, we condition on whether firms enter the crisis with financial slack under the premise that family-controlled firms with slack will have greater discretion regarding the use of corporate resources, while constrained family firms will not have such discretion. If the market incrementally discounts family-controlled firms with financial slack during the crisis, such a finding would provide additional evidence that conflicts of interest between controlling families and minority investors are particularly pronounced during a crisis.

In this section, we test this hypothesis using six measures of financial constraints as suggested by Hadlock and Pierce (2010). Specifically, a firm is more likely to be financially constrained if it is smaller, less profitable, has less cash, pays fewer dividends, has not issued any bond during the last six years, and is not included in an MSCI index or does not have analyst coverage on IBES. Firms without any of these characteristics are likely to have some degree of

[14] We note that if we cluster standard errors in the less conservative manner at the country-industry level, the negative coefficient of (Family control)x(Crisis period) in columns 2 and 3 becomes significant at the 5 percent level.

financial slack. For each of these measures we use December, 2006, data to classify firms into financially constrained firms (if the financial constraint indicator is among the bottom 30 percent of the sample) and firms with financial slack (if the financial constraint indicator is among the top 30 percent of the sample). For the binary indicators (i.e., firm is included in an MSCI index, has analyst coverage on IBES, or has issued any bond during last six years), firms are either constrained or have financial slack. We also produce four aggregate indicators of financial constraints: AggSum>1 and AggSum>2 are the equally-weighted sum of the six indicators, and PC30 and PC50 are measures based on the first principal component of the six indicators. AggSum>1 (AggSum>2) classifies all firms with a sum larger than 1 (2) as constrained, and the others as having slack. According to PC30 (PC50), the firms in the lowest three deciles (below the median) are financially constrained, while the firms in the highest three deciles (above the median) have financial slack.

The results of this split into firms with and without financial slack are reported in Table 10. In Panel A we focus on the aggregate indicators, while in Panel B we consider the individual scores. Across all of the aggregate AggSum and PC indicators (and for most of the individual indicators), we find that family control is associated with poor performance only if firms are *not* financially constrained. As mentioned, these are firms in which controlling shareholders have more discretion to choose actions that may not necessarily be beneficial for outside shareholders. Focusing on Panel A, the market appears to expect such actions to indeed be chosen; we find that the crisis-period underperformance of unconstrained family-controlled firms ranges between 2.1 points and 3.7 percentage points with respect to both widely-held firms and non-family-controlled firms.

We next turn to the coefficient on non-family control and find that for firms that *are* financially constrained, non-family control is associated with superior performance during the

crisis period that ranges between 2.2 and 5.1 percentage points. This is consistent with the hypothesis that non-family controlling blockholders have the capability to help alleviate the problems brought about by financial constraints. Recall, however, that the investigation of external financing conducted in Table 8 showed that non-family controlled firms do not obtain more external financing during the crisis relative to other firms. Thus, the benefit of non-family control during the crisis may be along the lines of internal financing, help in product markets, or monitoring.

Panel B of Table 10 shows that the results obtained using aggregate indicators are also present for almost all individual indicators of financial constraints. Additionally, the first Panel B splits are based on firm size, and these size splits act as an additional robustness test to confirm that family control and not size is the fundamental variable behind poor crisis-period returns for family firms. Specifically, the column 10 results are for the smallest 30% of the firms in our sample, and within this set of small firms we still find a significant difference in crisis-period returns between family-controlled and non-family-controlled firms, while the difference between family firms and widely held firms is negative but not significant. Hence, we can argue that our crisis-period results weaken but still survive when we restrict our sample to a set of the smallest firms.

3.6 Cross-Country Tests

In this section, we consider whether country-level measures of corporate governance add explanatory power to our findings that minority shareholders are concerned with the incremental costs and benefits of controlling blockholders during a financial shock. The law and finance literature has often argued that firm-level governance issues are more pronounced when

institutions that protect outside shareholders are relatively weak (see, for example La Porta, Lopez-de-Silanes, Shleifer, and Vishny (2002), Durnev and Kim (2005), Doidge et al. (2009), and Leuz, Lins, and Warnock (2009). As mentioned, prior work regarding blockholder control and crisis period valuation finds that firms with a high level of managerial control are associated with lower valuations, but the sample contains only eight emerging market countries (Lemmon and Lins (2003)).

As a first test, we split the sample into emerging markets and developed markets based on the classification found in *The Economist* (at year-end 2006). The results (untabulated for the sake of brevity) show that the negative effect of family control is concentrated in emerging markets and the negative coefficient is larger than what we found for the full sample in earlier tables. In developed markets there is no significant negative effect of family control. We also find that the beneficial effect of non-family blockholders is present in both the emerging and developed market subsamples. Thus, an initial conclusion can be drawn that minority shareholders discount family-controlled firms more heavily when they are likely to be least protected (to the extent that in 2006 an emerging market classification corresponds to lower shareholder protection).

We take this analysis further and next split our sample by other country level measures of shareholder protection, such as antidirector rights (La Porta et al. (1998) and Spamann (2009)), anti-self dealing (Djankov et al. (2008)), rule of law and legal origin (La Porta et al. (1998)), and several securities law indicators from La Porta, Lopez-de-Silanes and Shleifer (2006). In these splits we find no consistent patterns regarding the importance of family blockholder control within countries expected to have a lower level of minority shareholder protection. We find this lack of a consistent pattern both for firms overall and for firms that enter the crisis period with either financial slack or financial constraints. We thus conclude that, during a major financial

shock, family control is viewed to be detrimental for outside shareholders around the world. Turning to non-family blockholders we find that they are more positively related to firm value in some country splits, although the significance levels vary from strongly significant to insignificant, and the regression coefficients for non-family blockholders are always positive. Again, no consistent patterns emerge. Thus, we conclude that non-family blockholders appear to be beneficial around the world during a financial crisis.[15]

4. Conclusion

Does blockholder control influence firm value? Theoretically, the answer is not obvious: controlling blockholders may generate both costs and benefits that are partially borne by outside shareholders. Empirically, a large literature has not yet produced a conclusive answer. In this paper we shed new light on this topic by studying, around the world, whether and how family control affects valuation and corporate decisions during the 2008-2009 financial crisis.

We find that family-controlled firms underperform relative to other firms during the global financial crisis, controlling for firm, industry and country characteristics. The underperformance is economically meaningful and is robust to alternative event windows and alternative definitions of family firms. When we explore the corporate actions that might lie behind this performance differential, we find no significant differences in terms of cash holdings, dividend policy, leverage, debt maturity, credit lines, and equity issues between family firms and

[15] While it is of course not possible to know the reasons why we do not find country characteristics to matter, one prominent feature of the financial crisis may work against identifying cross-country differences that map into prior findings of the law and finance literature: the crisis was truly global, and was more pronounced economically in countries typically viewed as having better governance, and less pronounced in countries with weaker governance. This would make it difficult to detect incremental underperformance of family firms in weaker governance countries, should such underperformance exist.

other firms. However, we uncover that during the crisis family-controlled firms reduce their capital expenditures relative to both widely-held firms and non-family controlled firms.

Interestingly, we find that the underperformance of family-controlled firms is concentrated in only those firms that have financial slack, where the controlling family may enjoy a larger degree of discretion. We also find that financially constrained firms that are controlled by a non-family blockholder outperform other firms. This latter finding suggests that non-family blockholders provide a benefit to constrained firms during the crisis.

Overall, this evidence points toward a conflict-of-interest explanation for the underperformance of family-controlled firms during the crisis. Namely, family firms appear to use their power to cut capital spending, possibly in order to retrench, to the detriment of minority shareholders. Outside shareholders anticipate these shifting incentives on the part of family blockholders, causing the share price to decline.

Taken together, our results highlight how important it is for investors to better understand the type of controlling blockholders alongside which they invest around the world. Our findings also emphasize the importance of monitoring mechanisms that in critical situations reduce the discretion of controlling blockholders to personally benefit themselves at the expense of outside shareholders. Our paper suggests that financial constraints can provide such monitoring in the case of family-controlled firms; future research may uncover additional mechanisms. Finally, we find that controlling non-family blockholders are beneficial during a crisis. Many benefits to blockholders have been suggested in the literature. By ruling out several alternative possibilities, we conjecture that the main benefit has to do with access to the internal resources of the blockholder. Additional research with more detailed data would be useful for confirming this hypothesis.

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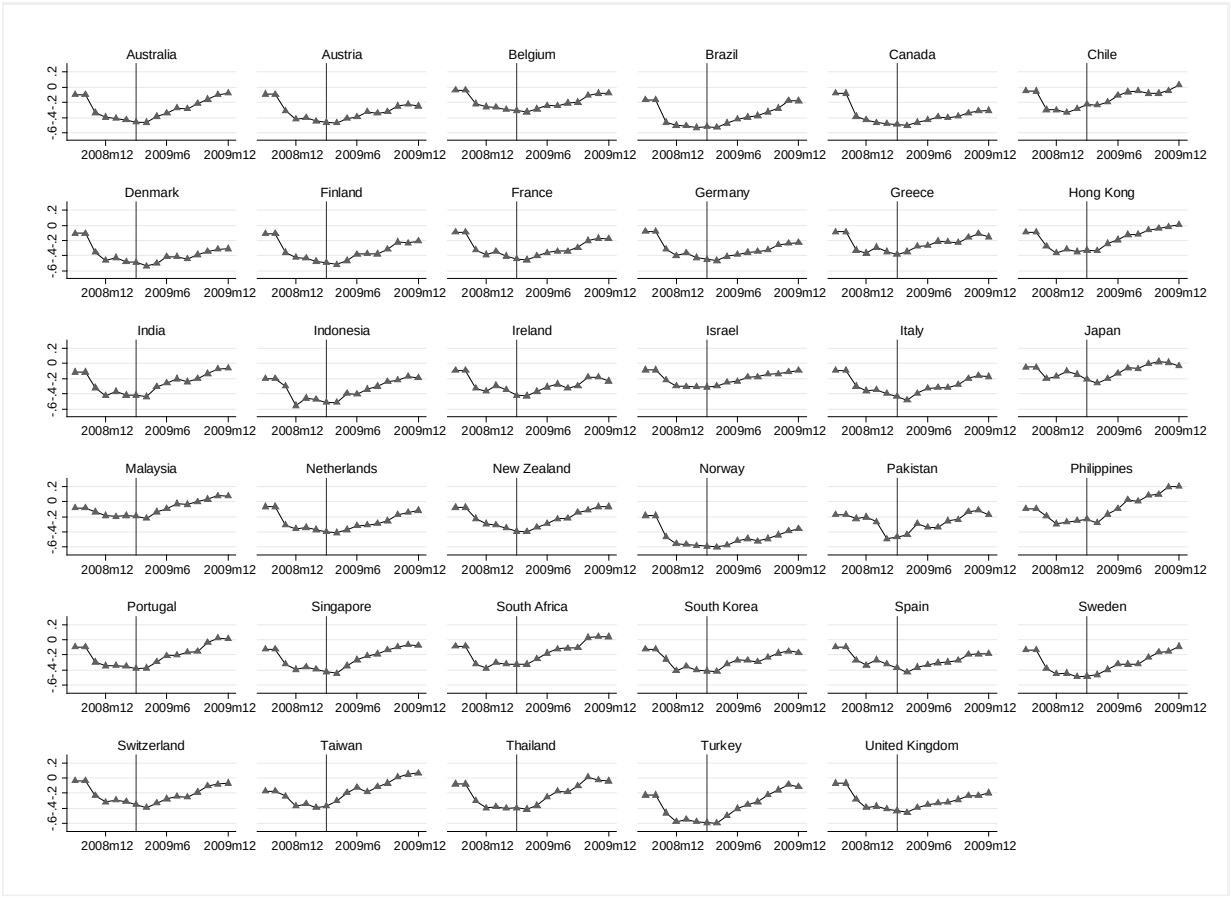

Figure 1. Stock Market Returns During the 2008-2009 Financial Crisis Around The World
Monthly stock market returns (value-weighted) for all 35 sample countries. Returns are buy-and-hold returns calculated using all sample firms and begin August 2008. The vertical line indicates March 2009, the MSCI World Total Return Index' lowest point during the crisis.

Table 1. Descriptive Statistics

Summary statistics for the main variables used in the analysis. Total assets and market capitalization are in millions of US$; Leverage is the ratio of total debt to total assets; Short-term debt is the ratio of short-term debt to total debt; Beta is the correlation between the stock return and the local market return estimated over the previous year; Momentum is a firm's stock return over the year preceding August 2008; Liquidity is the percentage of days during which the stock return was different from zero in the one-year period preceding Aug. 1, 2008; Freefloat is defined as 100 minus the percentage of shares closely held; MSCI is an indicator variable for whether (1) or not (0) a firm's stock belongs to the MSCI world index; Cross-listing is an indicator variable for whether (1) or not (0) a firm has a U.S. exchange-listed ADR as of December 2006; Cash holdings is the ratio of cash to total assets; Book-to-market is the ratio of the book value of equity to the market value of equity; Profitability is operating profit (measured as EBITDA) divided by total assets; Investment is the ratio of capital expenditures to total assets; Crisis period return is the buy-and-hold stock return of a firm from the middle of August 2008 to the middle of March 2009. All firm level statistics other than momentum and crisis period return are as of December 2006. All non-binary variables are winsorized at the 1st and 99th percentiles.

Variable	N	Mean	25th Pctl.	Median	75^{th} Pctl.	Std. Dev.
Total assets	8,584	1,492	71	239	876	3,977
Market capitalization	8,584	1,328	60	220	842	3,212
Leverage	8,584	0.20	0.03	0.17	0.32	0.17
Short term debt	8,584	0.49	0.24	0.50	0.73	0.31
Beta	8,584	0.92	0.56	0.87	1.22	0.51
Momentum	8,584	-0.25	-0.47	-0.26	-0.05	0.30
Liquidity	8,584	0.88	0.87	0.97	0.99	0.20
Freefloat	8,584	0.57	0.39	0.57	0.75	0.24
MSCI	8,584	0.53	0.00	1.00	1.00	0.50
Cross-listing	8,584	0.01	0.00	0.00	0.00	0.12
Cash holdings	8,584	0.16	0.05	0.11	0.22	0.17
Book-to-market	8,584	0.68	0.31	0.53	0.87	0.57
Profitability	8,584	0.04	0.01	0.06	0.10	0.15
Investment	8,584	0.06	0.02	0.04	0.07	0.07
Crisis period return	8,584	-0.40	-0.59	-0.41	-0.23	0.27

Table 2. Controlling Blockholder Categories by Country

Blockholder statistics by country as of December 2006 for the full sample of 8,584 non-financial firms. Firms are separated into the categories: (i) ultimately controlled by a family; (ii) ultimately controlled by a non-family blockholder; and (iii) widely held. A firm that is ultimately controlled by a family is one where the ultimate stake of the family (members) in aggregate exceeds the 25 percent threshold. A non-family controlled firm is one with an ultimate blockholder at the 25 percent threshold that is not affiliated with a family. Non-family controlled firms include firms known to have multiple blockholders, that collectively exceed the 25 percent threshold (so the firm is not widely held), but individually do not control the firm at the 25 percent threshold. A widely held firm is a company that is known to have no ultimate owner at the 25 percent threshold of control.

Country	Family controlled	Non-family controlled	Widely held	*N*
Australia	0.05	0.25	0.70	733
Austria	0.20	0.49	0.31	35
Belgium	0.20	0.49	0.31	65
Brazil	0.08	0.57	0.35	65
Canada	0.05	0.27	0.68	381
Chile	0.04	0.54	0.43	56
Denmark	0.11	0.43	0.46	63
Finland	0.09	0.39	0.52	79
France	0.36	0.35	0.29	366
Germany	0.32	0.37	0.31	292
Greece	0.20	0.40	0.40	45
Hong Kong	0.28	0.31	0.41	398
India	0.08	0.36	0.56	290
Indonesia	0.03	0.60	0.37	92
Ireland	0.08	0.14	0.78	36
Israel	0.14	0.17	0.69	29
Italy	0.32	0.44	0.24	149
Japan	0.01	0.10	0.89	1,577
Korea, Republic of	0.23	0.20	0.56	460
Malaysia	0.08	0.22	0.70	508
Netherlands	0.11	0.31	0.58	83
New Zealand	0.07	0.33	0.60	45
Norway	0.19	0.41	0.41	69
Pakistan	0.04	0.43	0.54	28
Philippines	0.09	0.62	0.29	68
Portugal	0.15	0.41	0.44	27
Singapore	0.15	0.32	0.53	347
South Africa	0.15	0.30	0.55	110
Spain	0.23	0.25	0.52	79
Sweden	0.09	0.27	0.64	116
Switzerland	0.15	0.32	0.53	132
Taiwan	0.01	0.14	0.85	440
Thailand	0.05	0.21	0.74	174
Turkey	0.23	0.56	0.21	111
United Kingdom	0.09	0.15	0.77	1,036
Total	0.11	0.25	0.64	8,584

Table 3. Pre-Crisis Firm Characteristics by Controlling Blockholder Type

Firm financial characteristics by type of control, as of December 2006. All variables are as defined in Table 1. Industry-adjusted (IA) values are calculated by subtracting the 2-digit SIC code industry year country median. All variables are winsorized at the 1 and 99 percentiles.

	Family controlled		Non-family controlled		Widely held		Diff Family vs Non-family	Diff Family vs Widely held
	Mean	SD	Mean	SD	Mean	SD		
Total assets	1.16	3.56	1.73	4.27	1.46	3.93	-0.568***	-0.302**
Market cap	1.06	2.85	1.57	3.51	1.28	3.15	-0.511***	-0.224**
Leverage	0.20	0.17	0.20	0.18	0.19	0.17	0.003	0.011*
Short term debt	0.50	0.31	0.47	0.31	0.50	0.30	0.029**	0.001
Cash holdings	0.16	0.16	0.15	0.15	0.17	0.17	0.017***	-0.005
Investment	0.05	0.06	0.06	0.07	0.06	0.07	-0.008***	-0.003
Profitability	0.05	0.12	0.05	0.13	0.03	0.15	-0.003	0.015***
IA Total assets	0.50	2.57	0.86	3.48	0.91	3.50	-0.358***	-0.407***
IA Market cap	0.51	2.34	0.77	2.79	0.79	2.82	-0.256**	-0.283***
IA Leverage	0.02	0.14	0.01	0.15	0.03	0.15	0.011*	-0.007
IA Short term debt	0.03	0.26	0.02	0.26	0.01	0.27	0.006	0.016*
IA Cash holdings	0.03	0.14	0.03	0.13	0.04	0.15	0.010*	-0.003
IA Investment	0.01	0.05	0.01	0.05	0.01	0.05	-0.001	-0.001
IA Profitability	-0.00	0.11	-0.00	0.11	-0.01	0.13	-0.002	0.008*

Table 4. Crisis Period Stock Returns for Widely Held and Blockholder Controlled Firms

Regressions of the dependent variable, crisis period stock returns, on blockholder categories and control variables. Crisis period return is the buy-and-hold stock return of a firm from mid-August 2008 to mid-March 2009. All specifications include country and industry fixed effects. Standard errors clustered at the country level are reported in brackets. ***, **, and * indicate significance at the 1 percent, 5 percent, and 10 percent level, respectively.

	(1)	(2)
Controlling blockholder of any type	0.010*	
	[0.006]	
Family controlled		-0.014**
		[0.006]
Non-family controlled		0.019**
		[0.007]
Ln(Firm size)	0.007**	0.007*
	[0.004]	[0.003]
Leverage	-0.127***	-0.125***
	[0.025]	[0.025]
Short term debt	-0.006	-0.006
	[0.010]	[0.010]
Beta	-0.047***	-0.047***
	[0.015]	[0.015]
Momentum	0.207***	0.205***
	[0.018]	[0.018]
Liquidity	0.078	0.079
	[0.061]	[0.061]
Freefloat	-0.021	-0.021
	[0.015]	[0.015]
MSCI	-0.011**	-0.011**
	[0.005]	[0.005]
Cross-listing	0.030	0.030
	[0.030]	[0.031]
Cash holdings	0.017	0.018
	[0.017]	[0.017]
Book-to-market	0.010	0.010
	[0.009]	[0.009]
Country and industry fixed effects	Yes	Yes
Observations	8,584	8,584
Adjusted R-squared	0.365	0.366

Table 5. Hazard and Logit Regressions of Non-Survival on Controlling Blockholder Categories

The dependent variable is whether the firm does not survive (1) or survives (0) between August 2008 and December 2009. The sample contains our baseline sample of 8,584 firms plus 13 firms that meet the data availability of our baseline sample, except the availability of price data for the entire crisis period (i.e. the firms delist between August 2008 and March 2009, 13 firms). Column 1 shows Cox hazard regression coefficients, where survival time is measured in months since August 2008. Column 2 shows logit regression coefficients. Standard errors clustered at the country level are reported in brackets. All variables are as defined in Table 1. All non-binary variables are winsorized at the 1st and 99th percentiles.

	(1) Cox semiparametric hazard rate regression	(2) Logit regression
Family controlled	-0.317	-0.316
	[0.386]	[0.304]
Non-family controlled	0.071	0.456
	[0.292]	[0.374]
Ln(Firm size)	-0.178*	-0.132
	[0.102]	[0.119]
Leverage	1.914**	1.057**
	[0.910]	[0.525]
Short term debt	0.012	-0.364
	[0.392]	[0.462]
Beta	-0.107	-0.871***
	[0.304]	[0.246]
Momentum	-1.486**	-2.322**
	[0.739]	[1.101]
Liquidity	-2.817**	-1.809*
	[1.429]	[1.083]
Freefloat	0.424	0.562
	[0.466]	[0.494]
MSCI	-1.170***	-1.299***
	[0.440]	[0.384]
Cross-listing	-41.589***	-
	[0.616]	-
Cash holdings	1.155***	0.388
	[0.423]	[0.370]
Book-to-market	-0.203	-0.445***
	[0.174]	[0.161]
Country and industry fixed effects	Yes	No
Observations	8,597	8,597

Table 6. Alternative Event Windows

Regressions of the dependent variable, crisis period stock returns, on blockholder categories and control variables. Crisis period stock returns are calculated over six alternative crisis periods. All crisis periods begin in mid-August 2008. In columns 1 to 4, the returns are compounded over *n* months as indicated in the column title, across all countries. In columns 5 and 6, returns are compounded over country-specific time periods. In column 5, the crisis return period ends in the month prior to the country's first positive monthly return, i.e. before the country's first uptick. In column 6, the crisis period ends in the month prior to the country's first three consecutive positive monthly returns, i.e. before the country's first three consecutive upticks. All specifications include country and industry fixed effects. Standard errors clustered at the country level are reported in brackets. ***, **, and * indicate significance at the 1 percent, 5 percent, and 10 percent level, respectively.

	Crisis period identical across countries				Country-specific crisis period	
	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable:	3 months (Nov 2008)	5 months (Jan 2009)	7 months (Mar 2009)	9 months (May 2009)	Until first uptick	Until three consecutive upticks
Family controlled	-0.006	-0.012*	-0.014**	-0.012*	-0.016***	-0.012**
	[0.007]	[0.006]	[0.006]	[0.007]	[0.006]	[0.006]
Non-family controlled	0.009*	0.014*	0.019**	0.018**	0.019***	0.023***
	[0.005]	[0.007]	[0.007]	[0.007]	[0.006]	[0.008]
Control variables	Yes	Yes	Yes	Yes	Yes	Yes
Country and industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	8,584	8,584	8,584	8,582	8,584	8,584
Adjusted R-squared	0.323	0.432	0.366	0.293	0.338	0.287

Table 7. Alternative Family Control Definitions

Regressions of the dependent variable, crisis period stock returns, on categories of blockholders and control variables. Crisis period return is the buy-and-hold stock return of a firm from mid-August 2008 to mid-March 2009. In column 1, we classify family-controlled as in Table 1; in column 2, we use the first alternative classification of family firms, which extends family control to include those firms in which one or more board members control at least 25 percent of voting rights; in column 3, the threshold for board members is reduced to at least 20 percent of voting rights; and in column 4, the threshold for board members is reduced to at least 10 percent of voting rights. All specifications include country and industry fixed effects. Standard errors clustered at the country level are reported in brackets. ***, **, and * indicate significance at the 1 percent, 5 percent, and 10 percent level, respectively.

	(1)	(2)	(3)	(4)
Family controlled	-0.014**			
	[0.006]			
Family controlled alternative 1		-0.015**		
		[0.006]		
Family controlled alternative 2			-0.015**	
			[0.006]	
Family controlled alternative 3				-0.012**
				[0.006]
Non-family controlled	0.019**	0.019**	0.019**	0.019**
	[0.007]	[0.007]	[0.007]	[0.007]
Control variables	Yes	Yes	Yes	Yes
Country and industry fixed effects	Yes	Yes	Yes	Yes
Observations	8,584	8,584	8,584	8,584
Adjusted R-squared	0.366	0.366	0.366	0.366

Table 8. Blockholder Control and Corporate Decisions During the Crisis

Panel regressions with yearly data from 2006 to 2009. The dependent variables are shown in the column titles. Profitability is the ratio of operating profit (EBITDA) to total assets; Cash is the ratio of cash to total assets; Dividends is the ratio of common dividends to total assets; Leverage is the ratio of total debt to total assets; Short-term debt is the ratio of short-term debt to total debt; Credit lines is revolving credit facilities divided by total assets; Equity issues is the percentage change in number of shares outstanding; Investment is the ratio of capital expenditures (capex) to total assets. Revolving credit facilities are from Capital IQ. Shares outstanding are from Datastream. Crisis period takes the value of one for years 2008 and 2009 and the value of zero for years 2006 and 2007. OLS regressions are estimated with firm fixed effects and industry-year fixed effects. Control variables include profitability, the log of total assets, the log of market capitalization, leverage, Q (total assets plus market value of equity minus book value of equity, divided by total assets). Control variables are excluded as follows: Column 1 excludes profitability, column 5 excludes leverage. Standard errors clustered at the country level are reported in brackets. ***, **, and * indicate significance at the 1 percent, 5 percent, and 10 percent level, respectively.

	Panel A: Financing decisions						**Panel B: Investment decisions**	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent variable:	Cash	Dividends	Leverage	Short-term debt	Credit lines	Equity issues	Investment	Log(Capex)
(Family control)x(Crisis period)	0.003	0.000	0.004	-0.005	-0.000	0.004	-0.005**	-0.115*
	[0.003]	[0.001]	[0.004]	[0.011]	[0.003]	[0.040]	[0.002]	[0.058]
(Non-family control)x(Crisis period)	0.002	-0.001	0.001	-0.006	0.002	-0.024	-0.001	-0.009
	[0.003]	[0.001]	[0.002]	[0.006]	[0.002]	[0.056]	[0.001]	[0.037]
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry-year fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	31,387	31,387	31,387	31,387	16,599	30,356	31,387	31,387
Adjusted R-squared	0.062	0.035	0.132	0.022	0.087	0.007	0.040	0.171
Family vs Non-family, *F*-statistic	0.0506	0.755	0.412	0.0116	0.398	0.315	9.144	5.239
p-value	0.823	0.391	0.526	0.915	0.532	0.578	0.005	0.028

Table 9. Blockholder Control and Restructuring During the Crisis

Panel regressions with yearly data from 2006 to 2009. The dependent variables are shown in the column titles. Change in employees is the annual change in employees. Employees is the number of both full and part time employees. Change in wages is the annual change in total wage expenditures. Crisis period takes the value of one for years 2008 and 2009 and the value of zero for years 2006 and 2007. OLS regressions are estimated with firm fixed effects and industry-year fixed effects. Control variables include profitability, the log of total assets, the log of market capitalization, leverage, Q (total assets plus market value of equity minus book value of equity, divided by total assets). Standard errors clustered at the country level are reported in brackets. ***, **, and * indicate significance at the 1 percent, 5 percent, and 10 percent level, respectively.

Dependent variable:	(1)	(2)	(3)	(4)
	Layoffs		Wage bill cuts	
	ΔEmployees	Employees	ΔWages	Log(Wages)
(Family control)x(Crisis period)	-0.123**	-0.266	-6.187	-0.009
	[0.052]	[0.187]	[4.739]	[0.026]
(Non-family control)x(Crisis period)	-0.119***	-0.076	-6.982**	0.008
	[0.039]	[0.107]	[3.033]	[0.022]
Firm controls	Yes	Yes	Yes	Yes
Industry-year fixed	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes
Observations	24,030	25,457	20,853	21,799
Adjusted R-squared	0.044	0.054	0.082	0.255
Family vs Non-family, *F*-statistic	0.007	1.584	0.051	0.621
p-value	0.934	0.217	0.823	0.436

Table 10. Blockholder Control and Firm-level Financial Constraints

Regressions of the dependent variable, crisis period stock returns, on blockholder control variables. Crisis period return is the buy-and-hold stock return of a firm from mid-August 2008 to mid-March 2009. The table reports results for subsamples, split by whether firms are financially constrained or have financial slack based on financial statistics for each firm as of December, 2006. Six individual criteria (size (total assets), profitability (operating income measured as EBITDA divided by total assets), cash (cash divided by total assets), dividends (dividends paid divided by assets), MSCI membership or IBES coverage (a 1/0 indicator variable), and bond market access (whether the firm has issued any bond during the last six years, a 1/0 indicator variable) are used. For each measure a firm is classified as financially constrained (if the financial constraint indicator is among the bottom 30 percent of the sample) or as having financial slack (if the financial constraint indicator is among the top 30 percent of the sample). For the binary indicators (i.e., firm is included in an MSCI index or has analyst coverage on IBES; firm has issued any bond during last six years), firms are either constrained or have financial slack. These six indicators are used to construct four aggregate indicators of financial constraints: AggSum>1 and AggSum>2 are the equally-weighted sums of the six indicators, and PC30 and PC50 are the first principal components of the six indicators. AggSum>1 (AggSum>2) classifies all firms with a sum larger than 1 (2) as constrained, and the others as having slack. According to the PC30 (PC50) measures, the firms in the lowest three deciles (below the median) are financially constrained; while the firms in the highest three deciles (above the median) have financial slack. Results for the four aggregate measures of financial constraints are shown in Panel A, while results for the six individual indicators are shown in Panel B. Unreported control variables include Ln(size), Leverage, Short-term debt, Beta, Momentum, Liquidity, Freefloat, an MSCI inclusion indicator, a US-exchange cross-listing indicator, Cash, and Book-to-market. All specifications include country and industry fixed effects. Standard errors clustered at the country level are reported in brackets. ***, **, and * indicate significance at the 1 percent, 5 percent, and 10 percent level, respectively.

Panel A: Aggregate measures of firm-level financial constraints

Constraints measure for sample split:	$C_{AggSum>1}$		$C_{AggSum>2}$		C_{PC30}		C_{PC50}	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Sample:	Unconstrained	Constrained	Unconstrained	Constrained	Unconstrained	Constrained	Unconstrained	Constrained
Family controlled	-0.029***	0.006	-0.022**	0.014	-0.033*	0.004	-0.020**	-0.006
	[0.010]	[0.010]	[0.009]	[0.019]	[0.018]	[0.013]	[0.010]	[0.009]
Non-family controlled	0.012	0.029***	0.01	0.053***	0.006	0.029*	0.019**	0.021**
	[0.011]	[0.008]	[0.008]	[0.016]	[0.012]	[0.015]	[0.008]	[0.010]
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country & industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4,764	3,820	6,618	1,966	2,321	2,616	4,244	4,340
Adjusted R-squared	0.406	0.276	0.383	0.229	0.384	0.348	0.382	0.349

Panel B: Individual measures of firm-level financial constraints

Constraints measure for sample split:	C_{Size}		C_{Profit}		C_{Cash}		C_{Div}		C_{Bond}		$C_{MSCI/IBES}$	
	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
Sample:	Uncon-strained	Con-strained	Uncon-strained	Con-strained	Uncon-strained	Con-strained	Uncon-strained	Con-strained	Uncon-strained	Con-strained	Uncon-strained	Con-strained
Family controlled	-0.022	-0.020	-0.024*	0.016	-0.022*	-0.002	-0.010	0.018	-0.018**	0.070	-0.021**	0.002
	[0.016]	[0.012]	[0.012]	[0.015]	[0.011]	[0.016]	[0.012]	[0.016]	[0.007]	[0.056]	[0.009]	[0.014]
Non-family controlled	0.002	0.025**	0.012	0.042***	0.009	0.030**	0.015	0.036***	0.017**	0.055	0.019*	0.021**
	[0.007]	[0.011]	[0.013]	[0.015]	[0.014]	[0.012]	[0.011]	[0.011]	[0.007]	[0.037]	[0.011]	[0.009]
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country & industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,575	2,576	2,575	2,576	2,575	2,576	2,576	2,575	8,289	295	5,887	2,697
Adjusted R-squared	0.435	0.261	0.358	0.284	0.380	0.334	0.372	0.219	0.364	0.337	0.350	0.403