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# **Does Stable Ownership create Value? Evidence from the Global Financial Crisis**

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# **Does Stable Ownership create Value? Evidence from the Global Financial Crisis**

**Abstract** We investigate the value of stable ownership for a sample of European firms using the global financial crisis as an exogenous shock and pre-and post-crisis years as benchmark periods. Consistent with the argument that stable ownership allows managers to focus on the creation of long-term value, we find that stable ownership resulted in higher stock returns and a higher market-to-book ratio during the crisis. This positive effect of stable ownership was not reversed after the crisis. Stable institutional blockholdings were more valuable in countries with weaker investor protection. However, the positive effect does not apply to firms in which a family is the largest blockholder. Finally, we also find that ownership stability was associated with a higher level of investments, illustrating that stable ownership affects real corporate decisions.

**Keywords** Ownership Stability, Family Ownership, Institutional Ownership, Global Financial Crisis, Firm Value, Investments

**JEL Classification** G01, G32

## **1 Introduction**

It is often argued that a good corporate governance system should give a favored role to long-term shareholders, since short-termism in business may lead to underinvestment and corporate strategies that focus on restructuring, financial re-engineering or mergers and acquisitions at the expense of developing the fundamental operational capabilities of the business (e.g., Fox and Lorsch 2012). Stable ownership allows corporate managers to focus on the creation of long-term value rather than on boosting short-term results (Stein 1989; Wahal and McConnell 2000). It may also strengthen shareholders' incentives and their ability to monitor the firm, as owners who stay longer with the firm are more likely to reap the benefits from monitoring and have more time to learn about the firm (Gaspar et al. 2005; Chen et al. 2007; Elyasiani and Jia 2010). On the other hand, ownership stability may exacerbate agency problems. Stable owners may become inactive monitors, leaving managers more leeway to pursue their own interests. Furthermore, the absence of important short-term owners may limit the influence of governance by trading. By contrast, short-term investors can sell their stock if they are dissatisfied with firm performance and put pressure on improving management's efficiency (Admati and Pfleiderer 2009; Edmans 2009). The net effect of stable ownership is therefore ambiguous.

In the current study, we investigate the value of stable ownership during the global financial crisis for a sample of 1,700 firms with blockholders in 28 European countries. Using a crisis period as an exogenous shock and measuring ownership stability on a pre-crisis basis eliminates potential simultaneity problems and overcomes endogeneity issues (e.g., Mitton 2002; Lemmon and Lins 2003; Baek et al. 2004; Leung and Horwitz 2010; Bae et al. 2012; Lins et al. 2013). Using different measures for ownership stability and controlling for ownership concentration, we find that firms with more stable ownership before the crisis experienced significantly higher stock returns during the crisis compared to other firms. We do

not find an effect in the pre-crisis years, which suggests that the global financial crisis was an exogenous shock that significantly increased the perceived value of stable ownership. Also, the positive effect of stable ownership during the crisis is not reversed after the crisis, which confirms that this effect is not driven by overreaction or price pressure due to a lack of liquidity (Bae et al. 2012; Cella et al. 2013). The latter would cause prices to drop below their fundamental value, leading to larger price reversals (Cella et al. 2013). The beneficial effect of stable ownership during the crisis is confirmed when we investigate its effect on firm value in the period 2005-2010, using a firm fixed effects model which allows us to control for time-invariant unobservable heterogeneity. Ownership stability is positively related to the market-to-book ratio in the crisis years 2008 and 2009, but not in the years before the crisis or in 2010.

In a next step, following studies underlining the importance of distinguishing between different types of investors (e.g., Pantzalis et al. 1998; Ting 2013), we investigate whether the perceived value of ownership stability depends upon the blockholder type. While institutional blockholders trade more frequently than other blockholders (Elyasiani and Jia 2010), are often blamed for short-termism and a lack of activism (Hamdami and Yafeh 2013) and it is far from clear whether they create or destroy shareholder value (Jiao and Ye 2013), family blockholders are typically considered as long-term investors with greater incentives for both monitoring and expropriation than other blockholders (Anderson and Reeb 2003; Villalonga and Amit 2006). We find that the positive effect of stable ownership applies to institutional blockholders, but not to families if these are the largest blockholder. This finding is consistent with the argument of Lins et al. (2013) that during a financial shock, family firms may use their resources primarily to ascertain the survival of the economic interests of the family. We also investigate whether the beneficial effect of stable ownership depends on the institutional environment. Firm-level governance mechanisms may act as substitutes for country-level investor protection in terms of their effect on firm value (e.g., La Porta et al. 2002; Lins 2003; Durnev and Kim

2005; Chu et al. 2014). Consistent with this view, we find that the beneficial effect of stable institutional blockholders is higher in countries with weaker investor protection.

Finally, we analyze whether stable ownership affects real corporate decisions. Managers may reduce investments to meet short-term earnings targets and avoid punishment by the capital market (Graham et al. 2005). Stable ownership may lead to a higher level of investment during a crisis because it helps countering managerial decisions to sacrifice long-term value in order to boost short-term results. Furthermore, if firms with stable ownership during a crisis are perceived to be less risky, this could make it easier for them to attract external funding (Weber et al. 2013). Consistent with these arguments, we find that firms with stable ownership invest more during the crisis compared to other firms.

Our study contributes to the ownership literature in several ways. To the best of our knowledge, we are the first to provide empirical evidence on the impact of stable ownership on firm value during a crisis. On the one hand, a number of studies have investigated the impact of ownership structure on firm value during a crisis period (Mitton 2002; Baek et al. 2004; Leung and Horwitz 2010; Bae et al. 2012; Lins et al. 2013). However, these studies disregard the role of ownership stability. On the other hand, a number of studies have investigated the effect of ownership stability. Their results suggest that firms with stable shareholders tend to perform better (Elyasiani and Jia 2010), in particular after mergers and acquisitions (Gaspar et al. 2005; Chen et al. 2007). Such firms are also less likely to reduce R&D expenditures to avoid earnings declines (Bushee 1998); have a lower stock return volatility (Bushee and Noe 2000; Elyasiani and Jia 2010) and have a lower cost of debt (Elyasiani et al. 2010). However, these studies do not consider the exogenous shock of a crisis period during which investors take into account weaknesses in corporate governance. Moreover, they only consider the ownership by institutional shareholders, while we take into account all blockholders and subsequently distinguish between different types of blockholders. We also provide new insights on whether

the effect of ownership stability depends on country-level investor protection. Finally, we provide additional insight into the role of stable ownership by investigating its influence on investments. While Bushee (1998) focuses on R&D investments, we consider the impact on capital expenditures which are for many firms at least as crucial for generating growth and creating firm value.

The remainder of the paper is structured as follows. In Section 2 and 3 we describe the sample and variables, respectively. In Section 4 we analyze the relation between ownership stability and both firm value and investments. In Section 5 we discuss a number of additional robustness checks. Section 6 concludes.

## **2 Sample**

For each year in the 2002-2009 period, we gather ownership data for all listed firms included in the yearly tapes (December issues) of the Amadeus ownership database of Bureau van Dijk. This database is used by several other ownership studies (e.g., Faccio et al. 2011; Franks et al. 2012). Bureau van Dijk collects the ownership data, which are based on voting shares, from official national bodies, associated information providers or directly from these firms. We identify all shareholders for each firm in the database for each available year. *Amadeus* reports total ownership and/or direct ownership of each shareholder.<sup>1</sup> Total ownership is based on both direct and indirect shareholdings. As noted by Bureau van Dijk, the Amadeus ownership database might contain some unidentified overlaps between total ownership and direct ownership.<sup>2</sup> In the analyses reported in this study, we use data on direct ownership holdings (which is available for most shareholders), in order to have a consistent

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<sup>1</sup> For 82% of all shareholders, only direct ownership data are available. For 14% of all shareholders, only total ownership data are available. For 4% of all shareholders, data on both direct and total ownership are available.

<sup>2</sup> When there is an unidentified overlap between total ownership and direct ownership, total ownership might exceed 100%. Suppose, for example, that firm A directly owns 100% of firm B, which directly owns 100% of firm C. If an information source also indicates that firm A holds total ownership (100%) of firm C, then the total ownership percentage in the database will be 200%.

measure of ownership. Following Dlugosz et al. (2006), we truncate our sample at a total blockholder ownership of 100%, which removes about 2% of the observations. As a robustness check we re-estimate all the regressions reported in this paper using total ownership when available; the results remain very similar (see Section 5).

As large shareholders play an important role in corporate governance, we focus on blockholders, consistent with the bulk of the ownership literature. We define blockholders as shareholders with shareholdings of at least 5%. Most studies use the 5% cutoff, which is the level at which shareholders are typically required to reveal their ownership stake (Holderness 2009). The European Transparency Directive requires shareholders to issue a notification when they have reached, exceeded or fallen below a minimal threshold of 5%.<sup>3</sup>

We combine the ownership data with financial statement data from the Bureau van Dijk Amadeus database and stock market data from the Thomson Reuters Datastream database. After excluding financial firms (U.S. SIC Code 6000-6999) and observations for which insufficient information is available to determine the variables, our sample consists of 1,700 firms with blockholders which are located across 28 European countries. This number may seem low at first sight, but it should be taken into account that we only consider firms with blockholdings of 5% or higher, and we need three consecutive years of ownership data prior to the crisis to measure ownership stability (see Section 3.2). The size of our sample is very comparable to the 1,195 firms in the sample of Laeven and Levine (2008) who analyze the relation between ownership structure and corporate valuation in 13 Western European countries by combining the ownership data from Faccio and Lang (2002) with data from the Worldscope database at the

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<sup>3</sup> Countries may also implement lower legal threshold notifications. The United Kingdom, for example, has set a minimal threshold of 3% for UK issuers. Germany, for example, has implemented a threshold of 3% for both German and non-German issuers.



end of 2000. When we only consider the countries in their study, we get a very similar number of observations (1,248 firms), and a very similar distribution across countries.

\*\*\* Table 1 about here \*\*\*

Table 1 reports the distribution of our sample across the different countries. Many observations come from the United Kingdom (23.12%), France (13.71%) and Germany (10.35%). Table 1 also reports the rule of law scores, the disclosure index scores and a measure of financial development in 2006 from the World Bank for each country in the sample.

The rule of law score serves as a proxy for the quality of a country's legal institutions. This measure is constructed from different data sources as a standardized normal variable (zero mean and variance one), ranging approximately from -2.5 to 2.5. The rule of law score in our sample ranges from a low of -0.99 (Russia) to a high of +1.98 (Finland and Norway). Higher values correspond to stronger investor protection.

The disclosure index measures the extent to which investors are protected through disclosure of financial information. The index ranges from 0 to 10, with higher values indicating more disclosure. The disclosure index score in our sample ranges from a low of 0 (Switzerland) to a high of 10 (Bulgaria, Ireland and the United Kingdom).

Financial development is measured by domestic credit provided by the financial sector (as a percentage of GDP). Domestic credit provided by the financial sector includes all credit to various sectors on a gross basis, with the exception of credit to the central government. The financial sector includes monetary authorities and deposit money banks as well as other financial corporations (e.g., finance and leasing companies, money lenders, insurance companies, pension funds and foreign and exchange companies). The financial development score in our sample ranges from a low of 21.53% (Russia) to a high of 297.55% (Iceland).

### 3 Variables

#### 3.1 Stock Return

To examine the perceived value of ownership stability, we consider its relation with cumulative stock returns (buy-and-hold returns) over three different time windows in the 2005-2010 period: the crisis period, a pre-crisis period, and the post-crisis period (Mitton 2002; Bae et al. 2012). The three time windows are determined by the evolution of the European financial markets during this period. We define the start of the crisis as the day after which the Datastream Total Market Index (covering 2,450 European stocks) started to decline—July 16, 2007. We define the *crisis period* as July 16, 2007 to the day when this index reached its lowest level—March 9, 2009. During this period, the market index fell from 8,386 to 3,184 points (-62%). After this crash period, financial markets revived and stock prices rose again. We also consider smaller event windows: three months, five months, seven months and nine months starting in the middle of August, 2008 (Lins et al. 2013). The results, which are available in appendix, tend to be very similar to the ones reported in the paper. We set the *post-crisis period* as the period from March 9, 2009 to the day when the index has reached a new high—January 11, 2010. During this period, the index sharply increased from 3,184 to 6,263 points (+97%). For the *pre-crisis period*, we use the year 2006 well ahead of our crisis period (to avoid any possible overlap with the crisis). When we use the year 2005 as the pre-crisis period and when we use a one-year period immediately before the defined crisis period (from July 15, 2006 until July 15, 2007), we get very similar results (available in appendix). We estimate the following cross-sectional OLS-model for the crisis period, the pre-crisis period, and the post-crisis period:

$$\begin{aligned} \text{Stock Return}_j = & \alpha_j + \beta_1 \text{Ownership Stability}_j + \beta_2 \text{Ownership Concentration}_j \\ & + \beta_3 \text{Other Controls}_j + \varepsilon_j \end{aligned} \quad (1)$$

### 3.2 Ownership Stability

Following Elyasiani and Jia (2010), we measure ownership stability in two different ways. *Non-Zero-Points Duration* is the number of years in which a blockholder has non-zero holdings. *Maintain-Stake-Points Duration* is the number of years in which a blockholder maintains its stake (i.e., either keeps the same ownership percentage or increases shareholdings). We calculate the average of each of these two measures across all blockholders of a firm. The higher the value of *Zero-Points Duration* and *Maintain-Stake-Points Duration*, the higher the stability of the firm's ownership. Compared to investor turnover rates which measure how much investors change the positions on the stocks in their portfolio, the advantage of these variables is that they do not assume that investors follow the same trading style in the different stocks they own (Elyasiani and Jia 2010).

It is well known that ownership structure might be endogenously determined by the contracting environment (e.g., Demsetz and Lehn 1985; Himmelberg et al. 1999). For example, a more stable ownership might be preferable in an unpredictable environment in which managers are more difficult to monitor. Therefore, ownership stability might differ in ways which are all consistent with shareholder value maximization.

The first concern is that ownership stability might be driven by simultaneity bias. Coles et al. (2012) show that, at least in the ownership-performance context, simultaneity bias cannot be solved by using standard econometric approaches such as fixed effects and instrumental variables. To deal with a simultaneity problem, we use the crisis period as an exogenous shock. Moreover, we measure our ownership stability variables on a pre-crisis basis from 2004 until 2006 to investigate their influence during the period from 2007 to 2010. For the pre-crisis period 2006, we measure our ownership stability variables from 2003 until 2005. Since the global financial crisis was an unanticipated event at that time (Lins et al. 2013) and we measure ownership stability well ahead of the crisis period, we consider it unlikely that our results

regarding the influence of ownership stability during the crisis are driven by simultaneity bias. Such an empirical strategy is commonly used in ownership studies (e.g., Mitton 2002; Lemmon and Lins 2003; Baek et al. 2004; Bae et al. 2012; Lins et al. 2013) to sidestep potential simultaneity problems.

A second concern is that our results might be driven by unobservable heterogeneity, and therefore simply reflect differences in the firm-specific contracting environment. In addition to controlling for a wide variety of firm characteristics, we reduce this concern by simultaneously considering ownership stability and ownership concentration. This eliminates the possibility that ownership stability merely reflects an ownership concentration effect. All control variables are discussed in Section 3.3. To control for time-invariant unobservable heterogeneity, we also estimate firm fixed effects panel data models with the market-to-book ratio as the dependent variable (see Section 4.5).

### **3.3 Control Variables**

#### **3.3.1 Ownership Concentration**

Since ownership stability is likely to be higher when ownership is more concentrated (Elyasiani and Jia 2010), we control for the influence of ownership concentration. Ownership concentration may lower agency problems by reducing the free rider problem associated with monitoring the managers (Shleifer and Vishny 1986). On the other hand, it may also exacerbate agency problems by increasing the likelihood that controlling shareholders will expropriate minority shareholders, reducing managerial initiative by over-monitoring (Burkart et al. 1997) and limiting the influence of governance by trading (Admati and Pfleiderer 2009; Edmans 2009). Prior studies find that ownership concentration has a positive effect on stock returns during a crisis period (Mitton 2002; Baek et al. 2004; Bae et al. 2012; Lins et al. 2013).

We use three measures of ownership concentration. Following Mitton (2002) and Baek et al. (2004), we distinguish between the ownership of the largest blockholder and total blockholder ownership. *Largest Blockholder Ownership* is the ownership percentage of the largest blockholder. We calculate *Total Blockholder Ownership* by summing the ownership percentages of all blockholders. Following studies that address multiple blockholders (e.g., Laeven and Levine 2008; Konijn et al. 2011), we also consider a measure of blockholder dispersion (the extent to which total blockholder ownership is divided between different blockholders). Blockholder dispersion is measured by a scaled *Herfindahl Index* based on the ownership percentages of the five largest blockholders, which is calculated as follows:

$$Herfindahl\ Index = \frac{\sum_{i=1}^5 w_i^2}{(\sum_{i=1}^5 w_i)^2} \quad (2)$$

where  $w_i$  is the shareholding percentage of blockholder  $i$ . A higher *Herfindahl Index* value implies a more concentrated ownership structure.<sup>4</sup> Again, to deal with a potential simultaneity problem, we measure ownership concentration on a pre-crisis basis in 2006 to investigate its influence during the period from 2007 to 2010. For the pre-crisis period 2006, we measure our ownership concentration variables in 2005.

### 3.3.2 Other

We also include a number of other control variables that are commonly used in studies investigating the relation between ownership and stock returns during a crisis (e.g., Lemmon and Lins 2003; Baek et al. 2004; Bae et al. 2012; Lins et al. 2013). The global financial crisis represented a negative shock to the supply of external finance, which increased liquidity

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<sup>4</sup> As a robustness check, we also use other measures of ownership concentration. Following Lins et al. (2013), we distinguish between widely held and non-widely held firms, with non-widely held firms defined as those with a total blockholder ownership of at least 25%. Following Konijn et al. (2011), we also estimate our models using measures of blockholder dispersion other than the Herfindahl Index: a Gini coefficient and the number of blockholders. We also measure the Herfindahl Index based on the ownership percentages of all blockholders. Results reported in appendix are qualitatively very similar.

constraints for non-financial firms (Duchin et al. 2010; Campello et al. 2010). Larger firms, firms with lower leverage and firms with more cash are less financially constrained (e.g., Baek et al. 2004; Duchin et al. 2010), and therefore, are expected to be less vulnerable to this shock. We measure firm size by the book value of *Total Assets*. *Leverage* is total financial debt divided by the book value of total assets, and *Cash Holdings* is calculated as cash and cash equivalents over the book value of total assets. Accounting performance is expected to have a positive influence on returns during the crisis. *Return on Assets* is defined as earnings before interest and taxes divided by the book value of total assets. These control variables are measured for the year preceding the period considered.

We also include measures for systematic risk (*Beta*) and firm-specific risk (*Idiosyncratic Risk*). In line with previous studies (e.g., Lemmon and Lins 2003; Baek et al. 2004; Bae et al. 2012; Lins et al. 2013), we expect that firms with higher risk suffer more during a crisis. These variables are measured by estimating a market model regression that nets out the proportion of returns attributable to common market factors. Our market model regression is based on the following equation:

$$r_{j,t} = \alpha_j + \beta_{1,j}r_{m,t-3} + \beta_{2,j}r_{m,t-2} + \beta_{3,j}r_{m,t-1} + \beta_{4,j}r_{m,t} + \beta_{5,j}r_{m,t+1} + \varepsilon_{j,t} \quad (3)$$

where  $r_{j,t}$  is the return on stock  $j$  in week  $t$  and  $r_{m,t}$  is the return on our market index (Datastream Total Market Index; 2,450 European stocks) in week  $t$ . To correct for nonsynchronous trading bias, we include three lag terms and one lead term, and we calculate *Beta* as the sum of the estimated slope coefficients of the different market factors (Dimson 1979). We measure *Idiosyncratic Risk* by the standard deviation of the residuals from equation (3) ( $\varepsilon_{j,t}$ ). Additionally, since ownership structure plays a significant role in shaping a firm's information environment (Brockman and Yan 2009), we also include a stock return *Synchronicity* measure, which is calculated as follows:

$$Synchronicity = \ln\left(\frac{R^2}{1-R^2}\right) \quad (4)$$

with  $R^2$  being the coefficient of determination from equation (3).<sup>5</sup> This variable captures the proportion of total stock return variation attributable to market level factors. A lower synchronicity indicates that more firm-specific information is impounded into the stock price. These variables are measured during the year prior to the year in which the considered time period starts.

The asset pricing literature provides evidence that value stocks outperform growth stocks (e.g., Fama and French 1995). To distinguish value stocks from growth stocks, we include the market-to-book ratio as a control. *Market-to-Book* is calculated by dividing the sum of the market value of equity and book value of total debt by the book value of total assets. We calculate the average market value during the year prior to the one in which the considered time period starts. The book value of debt and total assets are measured at the beginning of this year. The asset pricing literature also provides evidence that stock returns are positively serially correlated in the short-run and negatively serially correlated in the long-run (e.g. Fama and French 1988). To capture a momentum or contrarian effect, we measure *Momentum* as the cumulative stock return (buy-and-hold return) in the year prior to the year in which the considered time period starts. Since ownership might affect stock returns through its influence on stock liquidity, we also control for this factor. We measure *Stock Liquidity* as the percentage of market days that the firm's stock is traded the year prior to the year in which the considered time period starts.<sup>6</sup>

It is well accepted that country-level investor protection affects the external financing cost and firm value. Chu et al. (2014) for instance document that a concentrated ownership

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<sup>5</sup> The log-transformation replaces a bounded dependent variable with an unbounded continuous variable.

<sup>6</sup> Lesmond (2005) shows that the incidence of zero returns, or equivalently, the percentage of trading days better captures within-country liquidity than other liquidity measures (e.g., share turnover). However, controlling for the volume per share (log-transformed to deal with high skewness) yields similar results (reported in appendix).

structure increases a firm's cost of equity but this effect is significantly reduced by a country's stronger legal and extra-legal institutions. We expect that firms will suffer less during the crisis when minority shareholders are better protected (Johnson et al. 2000; Lemmon and Lins 2003).<sup>7</sup> Investor protection has two components: a legal rights component, often measured by an anti-director rights index and an enforcement component, typically captured by a rule of law score. As de facto enforcement dominates de jure law-on-books (Berglöf and Claessens 2006) and as the crisis effect documented by Johnson et al. (2000) based on the original anti-director rights index from La Porta et al. (1998) disappears when a revised anti-director rights index is used (Spamann 2010), we focus on the second component. To proxy for the quality of a country's legal institutions, we include the *Rule of Law* score from the World Bank. We also control for a country's financial development as the global financial crisis represented a negative shock to the supply of external finance. *Financial Development* is proxied by the domestic credit provided by the financial sector (percentage of GDP), based on data from the World Bank. As prior studies (e.g., Mitton 2002; Baek et al. 2004) have shown that disclosure quality influences stock returns during a crisis period, we additionally include the country-level *Disclosure Index* of the World Bank. For each of these three variables, which are discussed in section 2, we take the value for the year prior to the year in which the considered time period starts. Finally, to control for industry effects, we also include dummy variables based on the two-digit SIC code.

\*\*\* Table 2 about here \*\*\*

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<sup>7</sup> Direct evidence on the relevance of minority shareholder protection during crises periods can be found in Kim et al. (2005) who show for a sample of Korean business groups that funds are transferred (tunneled) to the firms where the controlling shareholders have the highest cash flow rights.



## 4 Results

### 4.1 Descriptive Statistics

Table 2 reports descriptive statistics for the variables used in the baseline crisis period stock return analysis. Continuous variables are winsorized at the top and bottom 1 percentiles to mitigate the impact of outliers. The mean (pre-crisis) non-zero-points and maintain-stake-points durations are 1.954 and 0.708, respectively, implying that over a three-year period, blockholders hold a block in the firm for an average of about 2 years and maintain (or increase) their block for about  $0.708 \times 12$  months = approximately 8.5 months. When interpreting this average holding period, it should be taken into account that it is calculated based on *all* blockholders. If we only consider the largest blockholder, the mean non-zero-points and maintain-stake-points durations are considerably longer: 2.515 (about 2 years and 6 months) and 1.053 (about 1 year and 1 month), respectively. The median non-zero-points and maintain-stake-points durations for the largest blockholder are 3 and 1, respectively. We provide additional insights with regard to ownership stability in Section 4.3 where we will further distinguish between different type of blockholders, focusing on family and institutional blockholders. The mean (pre-crisis) shareholdings of the largest blockholder and all blockholders are 34% and 55%, respectively. The average stock return during the crisis period is -60%.<sup>8</sup>

\*\*\* Table 3 about here \*\*\*

Table 3 report Pearson correlation coefficients. The ownership stability measures are positively correlated with the stock return during the crisis period. Ownership stability is also negatively related to firm size, its (pre-crisis) market-to-book ratio, the firms' stock liquidity,

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<sup>8</sup> We also use alternative event windows, defined by Lins et al. (2013) who study the influence of family control on stock returns during the global financial crisis for a worldwide sample. The mean and median stock return, reported by Lins et al. (2013) from the middle of August 2008 to the middle of March 2009 are -40% and -41%. The mean and median stock return for the firms in our sample over the same period are very similar: -42% and -45%, respectively.

and the country's rule of law score, disclosure index score and extent of financial development. The negative relation with the country level variables is consistent with shareholders maintaining a stable ownership to properly monitor the management when country-level corporate governance is weak.

\*\*\* Table 4 about here \*\*\*

## 4.2 Baseline Results

Table 4 reports the results for the OLS regressions on stock returns during the crisis. Models (1) and (2) report results for regressions with *Non-Zero-Points Duration* as ownership stability measure. In models (3) and (4), ownership stability is measured by *Maintain-Stake-Points Duration*. For each ownership stability measure, we first control for *Largest Blockholder Ownership*. In a second regression we include *Herfindahl Index* and *Total Blockholder Ownership* to control for ownership concentration.

The results suggest that (pre-crisis) ownership stability has a significant positive influence on stock returns during the global financial crisis, consistent with investors perceiving stable ownership as beneficial.<sup>9</sup> The coefficients for both *Non-Zero-Points Duration* and *Maintain-Stake-Points Duration* are positive and significant ( $p < 0.05$  and  $p < 0.01$  respectively). A one-standard-deviation increase in the non-zero-points duration and maintain-stake-points duration is associated with a 1.59 and 2.26 percentage points higher stock return, respectively, indicating that the relation between ownership stability and stock returns is also economically significant.

We also find that (pre-crisis) ownership concentration has a significant positive influence on stock returns. We observe significant positive coefficients for *Largest Blockholder*

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<sup>9</sup> To evaluate a potential multicollinearity problem, we calculate the variance inflation factors of all the independent variables. A variance inflation factor exceeding 10 is regarded as a sign of multicollinearity. However, the highest value in our analysis equals 2.26, which is far below this threshold.

*Ownership* ( $p < 0.01$ ), *Herfindahl Index* ( $p < 0.01$ ) and *Total Blockholder Ownership* ( $p < 0.10$ ). A one-standard-deviation increase in the ownership of the largest blockholder, our Herfindahl Index and the total blockholder ownership are associated with stock returns that are 2.68, 2.16 and 1.43 percentage points higher, respectively. This indicates that the economic effect for ownership stability and for ownership concentration are of similar magnitude.

\*\*\* Table 5 about here \*\*\*

\*\*\* Table 6 about here \*\*\*

Next, we investigate whether the observed ownership effects are specific to the crisis period by considering the pre-crisis period and the post-crisis period. Regression models (5) through (8) in Table 5 report results for the pre-crisis year 2006. Regression models (9) through (12) in Table 6 report results for the post-crisis period from March 9, 2009 to January 11, 2010. We do not find any significant relation between our ownership stability measures and the stock return in these time periods.<sup>10</sup>

The finding that ownership stability is not related to stock returns before the crisis suggests that either investors do not value ownership stability outside of crises, or stock market prices already incorporate the value of stable ownership as perceived by investors. It also indicates that the crisis is an exogenous shock that increases the value of stable ownership, or at least made investors aware of the value of more stable ownership.

Moreover, the results for the post-crisis period suggest that the crisis period results are not driven by a larger selling pressure for firms with less stable ownership. Short-term investors might amplify market-wide negative shocks by selling their shares to a larger extent than do long-term investors. This selling pressure may cause prices to drop below their fundamental

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<sup>10</sup> The number of observations during the crisis is different from the number of observations in the pre-crisis and post-crisis sample. In light of this, we perform the analysis again using a constant sample of 1,088 firms that are present in all periods considered. Results (reported in appendix) are very similar, except for the coefficient of *Total Blockholder Ownership*, which is no longer significant during the crisis.

value, leading to larger price reversals after the crisis (Cella et al. 2013). However, our results for the post-crisis period do not show a reversal effect for ownership stability. Any price pressure is likely to be captured by our stock liquidity measure, which has a significant negative coefficient during the crisis but a positive coefficient of similar magnitude in the post-crisis period.

\*\*\* Table 7 about here \*\*\*

### 4.3 Institutional and Family Blockholders

To investigate whether our results depend on the type of blockholder, we use the classification of shareholders in the Amadeus database to distinguish between family blockholders and institutional blockholders. We also take into account whether the blockholders are the firm's largest blockholder or not. Family blockholders are "individual(s) or family(ies)". Institutional blockholders are blockholders in the categories: "bank", "financial firm", "insurance firm", "mutual and pension fund" or "private equity firm".<sup>11</sup> Table 7 reports descriptive statistics for the pre-crisis ownership stability of different blockholder types. Not surprisingly, family blockholdings are more stable than institutional blockholdings, and within each blockholding category the largest blockholder tends to be more stable than other blockholders.

\*\*\* Table 8 about here \*\*\*

Regression results are reported in Table 8. To save space, we only report results for the regressions in which we use *Largest Blockholder Ownership* as a measure of ownership

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<sup>11</sup> 28% of the blockholders are family blockholders and 34% are institutional investors (including banks: 6.26%; financial firms: 7.36%; insurance firms: 2.40%; mutual and pension funds: 16.91%; private equity firms: 0.81%). Since the ownership measures in our main analysis are based on direct shareholdings, our sample also includes a substantial percentage of corporate blockholders: 36%. Results (unreported) for the stability of corporate blockholders are insignificant. For corporate blockholders, it might be the stability of the ultimate shareholders that matters, rather than the stability of the direct corporate shareholders. The remaining 2% is comprised of governments, foundations/research institutes and employees/managers.

concentration and do not show the results for the other control variables. The results indicate a significantly positive relation between (pre-crisis) ownership stability and stock returns during the crisis for institutional blockholders, irrespective of whether they are the largest blockholder (model (15) and (16)) or not (model (19) and (20)). However, for family blockholders we only find a significant ( $p < 0.10$ ) effect if they are not the firm's largest blockholder (model (17) and (18)). The non-significant result for families which are the largest blockholder in model (13) and (14) is consistent with Lins et al. (2013) who find that family-controlled firms have lower stock returns than non-family firms during the global financial crisis as families take survival-oriented actions (e.g., investment cuts) to preserve their private benefits of control at the expense of outside shareholders.

\*\*\* Table 9 about here \*\*\*

#### **4.4 Investor Protection**

As there are considerable differences within Europe with respect to investor protection, our setting also allows us to investigate whether and how the perceived value of stable ownership depends on the level of country-level corporate governance. To find out, we interact the (pre-crisis) ownership stability variables for family and institutional blockholders in our model of stock returns during the crisis period with our proxy for the quality of a country's legal institutions — the rule of law score from the World Bank. We do the same for our (pre-crisis) ownership concentration measure. The results are reported in Table 9.

While the results in model (21) and (22) show that the value of stable family blockholders does not depend on the level of investor protection, the results in model (23) and (24) suggest that the value of stable institutional blockholders does. The coefficients of the stability measures for institutional blockholders are positive (significant at the 1% level in both models), while the coefficients of the interactions with the rule of law are negative (significant

at the 5% level in model (24)). This finding indicates that stable institutional blockholders are a substitute corporate governance mechanism in countries with a weaker investor protection.

The value of ownership concentration also depends on the level of investor protection. However, in contrast to the results for ownership stability, the coefficients of the interaction with the rule of law are positive and significant ( $p < 0.01$  in model (21) and (22) and  $p < 0.05$  in model (23) and (24)), while the ownership concentration variable has a negative coefficient ( $p < 0.10$  in model (21) and (22)). This indicates that ownership concentration is only beneficial in countries with strong investor protection. This result is consistent with poor investor protection increasing the likelihood that concentrated owners may be expropriating firm value during crisis periods at the expense of minority shareholders.

#### 4.5 Ownership Stability and Market-to-Book

To control for time-invariant unobservable heterogeneity, we also estimate firm fixed effects panel data models with the market-to-book ratio as the dependent variable (e.g., Demsetz and Villalonga 2001; Laeven and Levine 2008; Konijn et al. 2011)<sup>12</sup>:

$$\begin{aligned}
 \ln(\text{Market-to-Book})_{j,t} = & \quad (5) \\
 & \alpha_j + \beta_1 \text{Ownership Stability}_{j,t} + \beta_2 \text{Ownership Stability}_{j,t} * \text{Year Dummy}_t \\
 & + \beta_3 \text{Ownership Concentration}_{j,t} + \beta_4 \text{Ownership Concentration}_{j,t} * \text{Year Dummy}_t \\
 & + \beta_5 \text{Other Controls}_{j,t} + \beta_6 \text{Year Dummy}_t + \varepsilon_{j,t}
 \end{aligned}$$

We use the same control variables as for the stock return regressions, except that we do not include *Momentum* but do include *Asset Tangibility*, computed as tangible fixed assets divided by the book value of total assets, as a negative proxy for a firm's growth opportunities (e.g., Laeven and Levine 2008; Konijn et al. 2011). All other variables are defined as before.

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<sup>12</sup> We use Hausman tests to investigate whether the fixed or random effects estimator is appropriate. Hausman tests reject the null hypotheses that random effects is appropriate, so we use the fixed effects estimator.

\*\*\* Table 10 about here \*\*\*

These results reported in Table 10 confirm the results from our stock return analysis. We do not find a significant relation between market-to-book and ownership stability and concentration in the pre-crisis period.<sup>13</sup> However, ownership stability and concentration are significantly and positively related to market-to-book during the crisis years. The coefficients of the ownership stability measures are positive and significant in 2008 and 2009 at the 1% level. The coefficients of all ownership concentration measures are also positive and significant in 2008. These findings provide empirical support for the fact that the valuation results are not driven by time-invariant unobservable heterogeneity.

#### **4.6 Ownership Stability and Investments**

We also analyze whether stable ownership affects real corporate decisions. Managers may reduce investments to meet short-term earnings targets and avoid punishment by the capital market (Graham et al. 2005). Stable ownership may lead to a higher level of investment during a crisis because it helps to counter managerial decisions that sacrifice long-term value to boost short-term results. Furthermore, if firms with stable ownership during a crisis are perceived to be less risky, this could make it easier for them to attract external funding for investments (Weber et al. 2013). To find out whether this is the case, we estimate the following firm fixed effects model over the 2005-2010 period<sup>14</sup>:

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<sup>13</sup> The insignificant negative relation between total blockholder ownership and firm value prior to the crisis may be a surprise; Thomsen et al. (2006) find a significantly negative relation in Europe during a non-crisis period. However, they doubt whether a systematic relation will persist in the long run, as this negative relation might be an out-of-equilibrium effect following corporate governance and finance restructurings in Europe during the 1990s. Consistent with this view, we do not find such a relation in Europe in 2005 and 2006.

<sup>14</sup> We use Hausman tests to investigate whether the fixed or random effects estimator is appropriate. Hausman tests reject the null hypotheses that random effects is appropriate, so we use the fixed effects estimator.

$$\begin{aligned}
\text{Capital Expenditures}_{j,t} = & \hspace{15em} (6) \\
& \alpha_j + \beta_1 \text{Ownership Stability}_{j,t} + \beta_2 \text{Ownership Stability}_{j,t} * \text{Year Dummy}_t \\
& + \beta_3 \text{Ownership Concentration}_{j,t} + \beta_4 \text{Ownership Concentration}_{j,t} * \text{Year Dummy}_t \\
& + \beta_5 \text{Other Controls}_{j,t} + \beta_6 \text{Year Dummy}_t + \varepsilon_{j,t}
\end{aligned}$$

*Capital Expenditures* in year  $t$  is calculated as the change in fixed assets plus depreciation in year  $t$ , divided by total assets at the start of the year.<sup>15</sup> In addition to controlling for ownership concentration, we include firm size, leverage, cash, return on assets and country-level financial development as proxies for financial constraints, and market-to-book as a proxy for investment opportunities (Barro, 1990; Hubbard, 1998). We also control for idiosyncratic risk, as Panousi and Papanikolaou (2012) find that when idiosyncratic risk increases, firm investment drops. All independent variables are measured as before.

\*\*\* Table 11 about here \*\*\*

The results reported in Table 11 suggest that firms with more stable ownership invest significantly more in 2008. The coefficients for Non-Zero-Points Duration and Maintain-Stake-Points Duration are positive and significant in 2008 at the 1% and 5% levels, respectively, suggesting that firms with stable owners invested significantly more in 2008 in the midst of the financial crisis. Ownership concentration also positively affects investments in 2008. These findings provide empirical support for the fact that stable ownership not only influences investor sentiment, but also real corporate decisions.

## 5 Robustness Checks

We perform a number of additional robustness checks. The results, which are reported in the appendix, confirm our previous results.

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<sup>15</sup> We exclude firm-years during which investments are larger than the book value of total assets, ensuring that results are not driven by merger investments.



First, to this point in the study, we have used only direct ownership data, which is available for most shareholders. As a robustness check, we also re-estimate our analyses using total ownership data, which takes into account indirect shareholdings when available. When total ownership is missing but direct ownership is available, direct ownership is used.

Second, so far we have calculated the average of our ownership stability measures across all blockholders of a firm, giving each blockholder equal weight. However, these measures do not take into account that ownership stability might be more important for larger blockholders. Therefore, we also re-calculate the average of our ownership stability measures across all blockholders, giving each blockholder a weight according to their fraction in the total blockholder ownership.

Third, for Maintain-Stake-Points Duration we have compared the ownership percentage of a blockholder in a particular year with its ownership percentage in the previous year. As a robustness check, we also compare the ownership percentage of a blockholder in a particular year with its ownership percentage in the first year of the considered time period. Since a blockholder's ownership percentage might decrease when new shares are issued (e.g., when incentive stock options are exercised), we also classify as "maintain its stake" those situations in which a blockholder's stake is higher than or equal to its ownership percentage in the prior period, less a small ownership percentage (we tried 2%,3% and 4%).

Finally, we account for the divergence between voting rights and cash flow rights of the ultimate shareholder. This important ownership structure variable has been seen to significantly affect firm value (e.g., Claessens et al. 2002; Lins 2003). The available data do not allow us to measure this wedge. However, we reduce the concern that this omitted variable biases our results by re-estimating our regressions, leaving out firms in those countries in which the divergence between ownership and control is substantial (Faccio and Lang 2002; La Porta et al. 2002): Belgium, Italy, the Netherlands, Norway, Sweden and Switzerland.

## **6 Conclusion**

In this study we investigate the value of a stable ownership for a large sample of listed firms in 28 European countries. Our results suggest that ownership stability was beneficial during the global financial crisis. Firms with more stable blockholders before the crisis exhibit higher stock returns and a higher market-to-book during the crisis. This positive effect of stable ownership applies to institutional blockholders and to families which are not the largest blockholder of the firm, but not to families if they are the largest blockholder. Moreover, we observe that the beneficial effect of stable ownership depends on the institutional environment. We find that the beneficial effect of stable institutional blockholders is higher in countries with a weaker rule of law, suggesting that stable institutional ownership is a substitute for weak country-level investor protection. Additionally, we observe that stable ownership before the crisis increases investment during the crisis, indicating that it also affects real corporate decisions. Overall, our results confirm the view that a stable ownership structure with a long-term focus may create value during a crisis, especially in an environment with weak investor protection. However, the fact that we do not find a significant value effect for family firms indicates that the benefits may not outweigh the costs if the priority of the controlling shareholder is to protect his own interests.

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**Table 1** Country distribution of sample

Country	N° of Firms	% of Firms	Rule of Law	Disclosure Index	Financial Development
Austria	13	0.76%	1.92	5	126.30
Belgium	58	3.41%	1.21	8	106.00
Bulgaria	5	0.29%	-0.18	10	39.49
Croatia	51	3.00%	-0.05	1	68.59
Czech Republic	2	0.12%	0.84	2	46.83
Estonia	7	0.41%	1.07	8	80.61
Finland	58	3.41%	1.98	6	93.26
France	233	13.71%	1.44	8	126.67
Germany	176	10.35%	1.71	5	127.36
Greece	155	9.12%	0.83	1	107.52
Iceland	2	0.12%	1.91	4	297.55
Ireland	13	0.76%	1.73	10	172.53
Italy	95	5.59%	0.28	7	108.62
Latvia	6	0.35%	0.63	5	83.37
Lithuania	21	1.24%	0.58	5	48.74
Luxembourg	2	0.12%	1.72	6	152.10
Netherlands	78	4.59%	1.76	3	165.74
Norway	54	3.18%	1.98	7	103.69
Poland	85	5.00%	0.34	7	42.86
Portugal	18	1.06%	1.00	6	152.99
Romania	11	0.65%	-0.14	9	23.88
Russia	22	1.29%	-0.99	6	21.53
Slovakia	2	0.12%	0.51	3	50.39
Slovenia	3	0.18%	0.88	3	72.01
Spain	78	4.59%	1.07	5	178.96
Sweden	42	2.47%	1.85	6	120.93
Switzerland	17	1.00%	1.81	0	165.53
United Kingdom	393	23.12%	1.73	10	156.60
Total	1,700	100%			

This table reports the country distribution of the sample. The last three columns of this table show for each country the 2006 rule of law score, disclosure index score and, as a measure of financial development, the domestic credit provided by the financial sector (% of GDP) from the World Bank.

**Table 2** Descriptive statistics – crisis period analysis

	Mean	Median	StDev	Min	Max
Non-Zero-Points Duration	1.954	1.833	0.589	1	3
Maintain-Stake-Points Duration	0.708	0.571	0.558	0	2
Largest Blockholder Ownership	0.338	0.280	0.227	0.051	0.985
Herfindahl Index	0.554	0.5006	0.280	0.203	1
Total Blockholder Ownership	0.548	0.571	0.249	0.052	0.995
Crisis Period Stock Return	-0.596	-0.659	0.286	-0.975	0.690
Total Assets (in thousands of Euros)	1,111,639	131,943	3,202,231	2,712	20,180,000
Leverage	0.191	0.156	0.176	0	0.861
Cash Holdings	0.091	0.045	0.120	0	0.901
Return on Assets	0.037	0.042	0.123	-1.124	0.346
Beta	0.851	0.766	0.959	-1.895	4.158
Idiosyncratic Risk	0.047	0.038	0.031	0.009	0.262
Synchronicity	-1.825	-1.785	0.846	-4.048	0.005
Market-to-Book	1.972	1.548	1.400	0.362	10.239
Momentum	0.347	0.219	0.590	-0.872	3.056
Liquidity	0.866	0.965	0.221	0.011	0.981
Rule of Law	1.290	1.436	0.632	-0.995	1.982
Financial Development	1.237	1.267	0.369	0.215	2.072
Disclosure Index	6.482	7	2.926	0	10

This table reports descriptive statistics for the variables used in the crisis period stock return analysis (1,700 observations). Continuous variables are winsorized at the top and bottom 1 percentiles to mitigate the impact of outliers. Our ownership stability variables are as defined in Section 3.2. Our ownership concentration variables are as defined in Section 3.3.1. Other variables are *Crisis Period Stock Return* = cumulative stock return (buy-and-hold return) over the crisis period from July 16, 2007 to March 9, 2009; *Total Assets* (in thousands of Euros); *Leverage* = Financial Debt divided by Total Assets; *Cash Holdings* = Cash and Cash Equivalents divided by Total Assets; *Return on Assets* = Earnings before Interest and Taxes divided by Total Assets; *Beta* = sum of the estimated slope coefficients of the different market factors from the market model regression in equation (3); *Idiosyncratic Risk* = standard deviation of the residuals from the market model regression in equation (3); *Synchronicity* =  $\ln(R^2/(1-R^2))$  with  $R^2$  being the firm's coefficient of determination from equation (3); *Market-to-Book* = market value of Equity plus book value of Debt, divided by Total Assets; *Momentum* = cumulative stock return (buy-and-hold return) over the year; *Liquidity* = percentage of trading days; *Rule of Law* is taken from the World Bank; *Financial Development* = domestic credit provided by the financial sector (% of GDP; from the World Bank); *Disclosure Index* is taken from the World Bank. All control variables are measured in 2006.



**Table 3** Pearson correlation matrix – crisis period analysis

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 Crisis Period Stock Return	<b>1</b>													
2 Ln(Total Assets)	-0.02	<b>1</b>												
3 Leverage	<b>-0.10</b>	<b>0.19</b>	<b>1</b>											
4 Cash Holdings	0.05	<b>-0.10</b>	<b>-0.29</b>	<b>1</b>										
5 Return on Assets	0.01	<b>0.21</b>	-0.03	-0.03	<b>1</b>									
6 Beta	<b>-0.19</b>	<b>-0.07</b>	-0.01	-0.02	<b>-0.06</b>	<b>1</b>								
7 Ln(Idiosyncratic Risk)	<b>-0.16</b>	<b>-0.45</b>	-0.04	<b>0.07</b>	<b>-0.27</b>	<b>0.29</b>	<b>1</b>							
8 Synchronicity	-0.05	<b>0.36</b>	0.01	0.00	<b>0.12</b>	<b>0.26</b>	<b>-0.28</b>	<b>1</b>						
9 Ln(Market-to-Book)	-0.05	0.04	<b>-0.14</b>	<b>0.30</b>	<b>0.19</b>	0.02	<b>-0.06</b>	<b>0.18</b>	<b>1</b>					
10 Momentum	<b>-0.17</b>	-0.02	-0.01	0.00	<b>0.13</b>	<b>0.28</b>	<b>0.32</b>	-0.01	<b>0.10</b>	<b>1</b>				
11 Stock Liquidity	<b>-0.28</b>	<b>0.29</b>	0.01	<b>0.07</b>	0.01	<b>0.15</b>	<b>-0.13</b>	<b>0.28</b>	<b>0.24</b>	0.06	<b>1</b>			
12 Rule of Law	<b>0.10</b>	<b>0.08</b>	<b>-0.10</b>	<b>0.18</b>	-0.02	<b>-0.20</b>	<b>-0.17</b>	0.03	<b>0.13</b>	<b>-0.20</b>	<b>0.08</b>	<b>1</b>		
13 Financial Development	<b>0.07</b>	<b>0.22</b>	<b>0.10</b>	<b>0.17</b>	0.02	<b>-0.24</b>	<b>-0.26</b>	0.03	<b>0.08</b>	<b>-0.20</b>	<b>0.10</b>	<b>0.69</b>	<b>1</b>	
14 Disclosure Index	<b>-0.08</b>	0.06	<b>-0.17</b>	<b>0.17</b>	0.05	<b>-0.18</b>	<b>-0.12</b>	-0.02	<b>0.15</b>	<b>-0.08</b>	0.04	<b>0.34</b>	<b>0.27</b>	<b>1</b>
Non-Zero-Points Duration	<b>0.10</b>	<b>-0.14</b>	0.05	-0.06	0.04	0.02	0.02	-0.05	<b>-0.10</b>	0.05	<b>-0.12</b>	<b>-0.14</b>	<b>-0.11</b>	<b>-0.27</b>
Maintain-Stake-Points Duration	<b>0.13</b>	<b>-0.16</b>	0.06	-0.06	0.03	0.00	0.03	-0.06	<b>-0.12</b>	0.04	<b>-0.17</b>	<b>-0.17</b>	<b>-0.11</b>	<b>-0.29</b>
Largest Blockholder Ownership	<b>0.16</b>	<b>-0.14</b>	0.01	<b>-0.06</b>	0.01	0.03	<b>0.07</b>	<b>-0.09</b>	-0.04	0.04	<b>-0.27</b>	<b>-0.26</b>	<b>-0.30</b>	<b>-0.25</b>
Herfindahl Index	<b>0.11</b>	0.05	-0.01	-0.01	0.02	0.02	-0.02	<b>0.08</b>	0.02	-0.01	<b>-0.08</b>	<b>-0.08</b>	<b>-0.16</b>	<b>-0.07</b>
Total Blockholder Ownership	<b>0.10</b>	<b>-0.18</b>	0.04	<b>-0.08</b>	-0.01	0.01	<b>0.11</b>	<b>-0.18</b>	<b>-0.07</b>	0.05	<b>-0.27</b>	<b>-0.26</b>	<b>-0.23</b>	<b>-0.26</b>

This table shows the Pearson correlation matrix with the variables used in the crisis period stock return analysis. All variables are defined as before. The following variables are log-transformed to deal with high skewness: *Total Assets*, *Idiosyncratic Risk* and *Market-to-Book*. **Bold** indicates significance at the 1% level.

**Table 4** Ownership stability and crisis period stock returns

	(1)	(2)	(3)	(4)
Non-Zero-Points Duration	0.026** (0.022)	0.028** (0.016)		
Maintain-Stake-Points Duration			0.040*** (0.002)	0.041*** (0.001)
Largest Blockholder Ownership	0.119*** (0.000)		0.117*** (0.000)	
Herfindahl Index		0.078*** (0.001)		0.076*** (0.002)
Total Blockholder Ownership		0.058* (0.057)		0.057* (0.061)
Ln(Total Assets)	-0.004 (0.397)	-0.005 (0.313)	-0.003 (0.485)	-0.004 (0.385)
Leverage	-0.162*** (0.000)	-0.162*** (0.000)	-0.163*** (0.000)	-0.163*** (0.000)
Cash Holdings	0.127* (0.061)	0.126* (0.060)	0.124* (0.066)	0.123* (0.064)
Return on Assets	-0.032 (0.703)	-0.031 (0.712)	-0.034 (0.686)	-0.032 (0.699)
Beta	-0.023** (0.010)	-0.023** (0.011)	-0.022** (0.013)	-0.022** (0.014)
Ln(Idiosyncratic Risk)	-0.093*** (0.000)	-0.094*** (0.000)	-0.092*** (0.000)	-0.093*** (0.000)
Synchronicity	0.010 (0.296)	0.009 (0.356)	0.010 (0.322)	0.009 (0.383)
Ln(Market-to-Book)	-0.012 (0.384)	-0.011 (0.396)	-0.010 (0.438)	-0.010 (0.450)
Momentum	-0.027** (0.031)	-0.026** (0.035)	-0.027** (0.027)	-0.027** (0.031)
Stock Liquidity	-0.336*** (0.000)	-0.340*** (0.000)	-0.331*** (0.000)	-0.335*** (0.000)
Rule of Law	0.058*** (0.000)	0.057*** (0.000)	0.061*** (0.000)	0.060*** (0.000)
Financial Development	0.022 (0.378)	0.021 (0.396)	0.018 (0.455)	0.018 (0.478)
Disclosure Index	-0.015*** (0.000)	-0.015*** (0.000)	-0.014*** (0.000)	-0.015*** (0.000)
Industry Dummies	Yes	Yes	Yes	Yes
Observations	1,700	1,700	1,700	1,700
Adjusted R-squared	0.2217	0.2205	0.2244	0.2230
F-statistic	23.85***	22.33***	24.26***	22.68***

This table displays regression coefficients and heteroskedasticity-robust p-values for OLS regressions with the stock return during the crisis period as the dependent variable. All variables are defined as before. Coefficients for industry dummy variables are not reported. \*\*\*, \*\* and \* indicate statistical significance at the 1%, 5% and 10% levels, respectively.

**Table 5** Ownership stability and stock returns during the pre-crisis period

	(5)	(6)	(7)	(8)
Non-Zero-Points Duration	-0.011 (0.659)	-0.011 (0.676)		
Maintain-Stake-Points Duration			-0.006 (0.840)	-0.004 (0.873)
Largest Blockholder Ownership	-0.104 (0.119)		-0.107 (0.104)	
Herfindahl Index		-0.077 (0.124)		-0.079 (0.110)
Total Blockholder Ownership		-0.059 (0.344)		-0.061 (0.324)
Ln(Total Assets)	-0.009 (0.368)	-0.008 (0.429)	-0.009 (0.374)	-0.008 (0.436)
Leverage	0.131 (0.208)	0.132 (0.206)	0.132 (0.204)	0.133 (0.202)
Cash Holdings	0.161 (0.338)	0.160 (0.341)	0.162 (0.335)	0.161 (0.338)
Return on Assets	0.587*** (0.000)	0.579*** (0.000)	0.588*** (0.000)	0.580*** (0.000)
Beta	0.031 (0.137)	0.031 (0.141)	0.031 (0.137)	0.031 (0.141)
Ln(Idiosyncratic Risk)	0.009 (0.827)	0.009 (0.817)	0.010 (0.809)	0.010 (0.799)
Synchronicity	0.035 (0.105)	0.034 (0.108)	0.035 (0.103)	0.035 (0.105)
Ln(Market-to-Book)	-0.145*** (0.000)	-0.144*** (0.000)	-0.145*** (0.000)	-0.144*** (0.000)
Momentum	0.063* (0.097)	0.063* (0.098)	0.063* (0.097)	0.063* (0.098)
Stock Liquidity	0.007 (0.938)	0.007 (0.940)	0.008 (0.933)	0.008 (0.932)
Rule of Law	-0.111*** (0.001)	-0.111*** (0.002)	-0.112*** (0.001)	-0.111*** (0.002)
Financial Development	-0.232*** (0.003)	-0.233*** (0.003)	-0.231*** (0.003)	-0.232*** (0.002)
Disclosure Index	-0.005 (0.345)	-0.005 (0.349)	-0.005 (0.354)	-0.005 (0.357)
Industry Dummies	Yes	Yes	Yes	Yes
Observations	1,632	1,632	1,632	1,632
Adjusted R-squared	0.1169	0.1165	0.1168	0.1164
F-statistic	5.93***	5.68***	5.96***	5.73***

This table displays regression coefficients and heteroskedasticity-robust p-values for OLS regressions with the stock return during the pre-crisis period as dependent variable. All variables are defined as before. Coefficients for industry dummy variables are not reported. \*\*\*, \*\* and \* indicate statistical significance at the 1%, 5% and 10% levels, respectively.

**Table 6** Ownership stability and stock returns during the post-crisis period

	(9)	(10)	(11)	(12)
Non-Zero-Points Duration	0.037 (0.295)	0.033 (0.346)		
Maintain-Stake-Points Duration			0.041 (0.242)	0.038 (0.277)
Largest Blockholder Ownership	-0.098 (0.300)		-0.096 (0.310)	
Herfindahl Index		-0.066 (0.393)		-0.066 (0.389)
Total Blockholder Ownership		-0.000 (0.997)		-0.000 (0.998)
Ln(Total Assets)	0.095*** (0.000)	0.096*** (0.000)	0.095*** (0.000)	0.096*** (0.000)
Leverage	-0.282** (0.026)	-0.281** (0.025)	-0.278** (0.028)	-0.278** (0.027)
Cash Holdings	0.108 (0.550)	0.105 (0.562)	0.111 (0.541)	0.108 (0.554)
Return on Assets	0.130 (0.430)	0.125 (0.450)	0.134 (0.419)	0.128 (0.439)
Beta	0.115** (0.025)	0.115** (0.026)	0.116** (0.024)	0.116** (0.025)
Ln(Idiosyncratic Risk)	0.289*** (0.000)	0.292*** (0.000)	0.290*** (0.000)	0.293*** (0.000)
Synchronicity	0.001 (0.976)	0.003 (0.929)	0.001 (0.979)	0.003 (0.932)
Ln(Market-to-Book)	0.033 (0.469)	0.031 (0.501)	0.034 (0.464)	0.031 (0.495)
Momentum	-0.922*** (0.000)	-0.918*** (0.000)	-0.922*** (0.000)	-0.918*** (0.000)
Stock Liquidity	0.316*** (0.003)	0.325*** (0.002)	0.319*** (0.002)	0.328*** (0.002)
Rule of Law	0.112** (0.018)	0.114** (0.016)	0.114** (0.015)	0.117** (0.014)
Financial Development	-0.287*** (0.000)	-0.283*** (0.000)	-0.290*** (0.000)	-0.286*** (0.000)
Disclosure Index	0.047*** (0.000)	0.048*** (0.000)	0.047*** (0.000)	0.048*** (0.000)
Industry Dummies	Yes	Yes	Yes	Yes
Observations	1,456	1,456	1,456	1,456
Adjusted R-squared	0.2450	0.2444	0.2451	0.2444
F-statistic	27.57***	26.45***	27.71***	26.55***

This table displays regression coefficients and heteroskedasticity-robust p-values for OLS regressions with the stock return during the post-crisis period as dependent variable. All variables are defined as before. Coefficients for industry dummy variables are not reported. \*\*\*, \*\* and \* indicate statistical significance at the 1%, 5% and 10% levels, respectively.

**Table 7** Pre-crisis stability of family and institutional blockholders

		Obs	Mean	Median	StDev	Min	Max
<i>Panel A: Non-Zero-Points Duration</i>							
Family	Largest	393	2.471	3	0.766	1	3
	Non-Largest	717	1.885	2	0.784	1	3
Institutional	Largest	447	2.092	2	0.835	1	3
	Non-Largest	1,005	1.623	1.500	0.617	1	3
<i>Panel B: Maintain-Stake-Points Duration</i>							
Family	Largest	393	1.074	1	0.806	0	2
	Non-Largest	717	0.641	0.500	0.685	0	2
Institutional	Largest	447	0.756	1	0.737	0	2
	Non-Largest	1,005	0.465	0.286	0.555	0	2

This table reports descriptive statistics for the pre-crisis ownership stability of family and institutional blockholders, taking into account whether they are the firm's largest blockholder or not.

**Table 8** Ownership stability and crisis period stock returns: The effect across different blockholder types

Model: Type of Blockholders	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
	Fam-L	Fam-L	Inst-L	Inst-L	Fam-NL	Fam-NL	Inst-NL	Inst-NL
Non-Zero-Points Duration	0.008 (0.652)		0.031** (0.036)		0.022* (0.090)		0.026* (0.052)	
Maintain-Stake-Points Duration		0.021 (0.229)		0.052*** (0.003)		0.026* (0.089)		0.031** (0.035)
Largest Blockholder Ownership	0.131* (0.094)	0.129 (0.100)	0.301*** (0.002)	0.295*** (0.002)	0.123** (0.031)	0.121** (0.034)	0.094* (0.052)	0.096** (0.043)
Other Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	393	393	447	447	717	717	1,005	1,005
Adjusted R-squared	0.2894	0.2923	0.2019	0.2119	0.1753	0.1758	0.1774	0.1779
F-Statistic	8.28***	8.31***	5.34***	5.47***	8.24***	8.29***	11.48***	11.66***

This table displays regression coefficients and heteroskedasticity-robust p-values for OLS regressions with the stock return during the crisis period as dependent variable and with ownership stability measures calculated separately for the largest (L) and non-largest (NL) family (Fam) and institutional blockholders (Inst). To save space, we only report results for the regressions in which we control for *Largest Blockholder Ownership* and do not show the results for the other control variables. All variables are defined as before. \*\*\*, \*\* and \* indicate statistical significance at the 1%, 5% and 10% levels, respectively.

**Table 9** Ownership stability and crisis period stock returns:  
The effect across country-level investor protection

Model: Type of Blockholders	(21)	(22)	(23)	(24)
	Fam	Fam	Inst	Inst
Non-Zero-Points Duration	-0.013 (0.551)		0.075*** (0.007)	
Maintain-Stake-Points Duration		0.000 (0.997)		0.108*** (0.001)
* Rule of Law	0.022 (0.205)	0.016 (0.426)	-0.028 (0.136)	-0.050** (0.030)
Largest Blockholder Ownership	-0.149* (0.059)	-0.146* (0.065)	-0.076 (0.426)	-0.038 (0.685)
* Rule of Law	0.231*** (0.001)	0.227*** (0.001)	0.155** (0.021)	0.132** (0.049)
Other Control variables	Yes	Yes	Yes	Yes
Observations	824	824	1,071	1,071
Adjusted R-squared	0.1998	0.1997	0.1918	0.1952
F-statistic	9.26***	9.14***	10.29***	10.47***

This table displays regression coefficients and heteroskedasticity-robust p-values for OLS regressions with the stock return during the crisis period as dependent variable and with ownership stability measures calculated separately for the family (Fam) and institutional blockholders (Inst). Ownership measures are interacted with our measure of country-level investor protection: the rule of law index from the World Bank. For the sake of brevity, we only use *Largest Blockholder Ownership* as a measure of ownership concentration. All variables are defined as before. Coefficients for other control variables are not reported. \*\*\*, \*\* and \* indicate statistical significance at the 1%, 5% and 10% levels, respectively.

**Table 10** Ownership stability and market-to-book

	(25)	(26)	(27)	(28)
Non-Zero-Points Duration	-0.009 (0.500)	-0.010 (0.472)		
Maintain-Stake-Points Duration			-0.015 (0.271)	-0.017 (0.237)
x Year 2007	0.021 (0.184)	0.020 (0.217)	0.013 (0.447)	0.011 (0.514)
x Year 2008	0.048*** (0.002)	0.046*** (0.003)	0.054*** (0.001)	0.050*** (0.002)
x Year 2009	0.044*** (0.006)	0.044*** (0.006)	0.054*** (0.002)	0.054*** (0.002)
x Year 2010	0.004 (0.823)	0.006 (0.757)	0.014 (0.471)	0.015 (0.415)
Largest Blockholder Ownership	0.010 (0.858)		0.004 (0.948)	
Herfindahl Index		0.038 (0.373)		0.037 (0.392)
x Year 2007	0.025 (0.528)	0.005 (0.875)	0.033 (0.411)	0.007 (0.814)
x Year 2008	0.183*** (0.000)	0.091*** (0.002)	0.184*** (0.000)	0.091*** (0.002)
x Year 2009	0.047 (0.272)	0.064** (0.040)	0.046 (0.285)	0.063** (0.044)
x Year 2010	-0.004 (0.934)	0.053 (0.150)	-0.006 (0.900)	0.052 (0.154)
Total Blockholder Ownership		0.002 (0.969)		-0.003 (0.941)
x Year 2007		0.026 (0.486)		0.033 (0.378)
x Year 2008		0.158*** (0.000)		0.158*** (0.000)
x Year 2009		0.007 (0.861)		0.005 (0.898)
x Year 2010		-0.044 (0.324)		-0.047 (0.298)
Ln(Total Assets)	-0.453*** (0.000)	-0.452*** (0.000)	-0.453*** (0.000)	-0.452*** (0.000)
Leverage	0.183*** (0.000)	0.185*** (0.000)	0.185*** (0.000)	0.187*** (0.000)
Cash Holdings	0.084 (0.157)	0.088 (0.141)	0.086 (0.149)	0.089 (0.133)
Return on Assets	0.298*** (0.000)	0.299*** (0.000)	0.299*** (0.000)	0.300*** (0.000)
Asset Tangibility	-0.107 (0.104)	-0.111* (0.094)	-0.107 (0.107)	-0.110* (0.097)
Beta	0.001 (0.861)	0.001 (0.802)	0.001 (0.898)	0.001 (0.836)
Ln(Idiosyncratic Risk)	-0.023** (0.022)	-0.024** (0.017)	-0.022** (0.030)	-0.023** (0.023)
Synchronicity	-0.015*** (0.000)	-0.016*** (0.000)	-0.015*** (0.001)	-0.015*** (0.000)
Stock Liquidity	0.077** (0.033)	0.073** (0.044)	0.076** (0.036)	0.072** (0.049)



Rule of Law	-0.119** (0.036)	-0.114** (0.046)	-0.115** (0.043)	-0.110* (0.054)
Financial Development	-0.131*** (0.000)	-0.129*** (0.000)	-0.129*** (0.000)	-0.127*** (0.000)
Disclosure Index	-0.020 (0.168)	-0.019 (0.185)	-0.020 (0.175)	-0.019 (0.192)
Firm and Year Fixed Effects	Yes	Yes	Yes	Yes
... with Year 2008	-0.270*** (0.000)	-0.340*** (0.000)	-0.215*** (0.000)	-0.288*** (0.000)
Firm-Year Observations	8,207	8,207	8,207	8,207
Number of Firms	2,143	2,143	2,143	2,143
Adjusted R-squared	0.5316	0.5329	0.5318	0.5331
F-statistic	206.38***	173.32***	207.01***	173.81***
Hausman Chi-Squared	765.74***	654.65***	767.06***	646.32***

This table displays regression coefficients and heteroskedasticity-robust p-values for firm fixed effects panel data regressions for the 2005-2010 period with Ln(Market-to-Book) as the dependent variable. All variables are defined as before. Coefficients for year dummy variables are not reported. \*\*\*, \*\* and \* indicate statistical significance at the 1%, 5% and 10% levels, respectively.

**Table 11** Ownership stability and investments

	(29)	(30)	(31)	(32)
Non-Zero-Points Duration	-0.002 (0.792)	-0.002 (0.783)		
Maintain-Stake-Points Duration			0.004 (0.487)	0.004 (0.494)
x Year 2007	0.006 (0.516)	0.006 (0.515)	0.004 (0.714)	0.004 (0.695)
x Year 2008	0.032*** (0.002)	0.031*** (0.002)	0.026** (0.016)	0.026** (0.017)
x Year 2009	0.012 (0.194)	0.011 (0.223)	0.010 (0.352)	0.009 (0.380)
x Year 2010	0.018* (0.071)	0.017* (0.081)	0.014 (0.196)	0.013 (0.210)
Largest Blockholder Ownership	0.019 (0.456)		0.012 (0.623)	
Herfindahl Index		0.016 (0.398)		0.012 (0.515)
x Year 2007	0.015 (0.525)	0.007 (0.694)	0.017 (0.453)	0.009 (0.627)
x Year 2008	0.061*** (0.007)	0.057*** (0.002)	0.066*** (0.003)	0.060*** (0.001)
x Year 2009	-0.006 (0.783)	-0.007 (0.699)	-0.004 (0.847)	-0.005 (0.754)
x Year 2010	-0.012 (0.610)	-0.014 (0.456)	-0.009 (0.710)	-0.012 (0.513)
Total Blockholder Ownership		-0.004 (0.819)		-0.009 (0.652)
x Year 2007		0.006 (0.783)		0.007 (0.746)
x Year 2008		0.033 (0.129)		0.035 (0.102)
x Year 2009		-0.002 (0.923)		-0.002 (0.940)
x Year 2010		-0.007 (0.754)		-0.005 (0.817)
Ln(Total Assets)	-0.128*** (0.000)	-0.128*** (0.000)	-0.128*** (0.000)	-0.128*** (0.000)
Leverage	-0.111*** (0.000)	-0.111*** (0.000)	-0.111*** (0.000)	-0.111*** (0.000)
Cash Holdings	0.195*** (0.000)	0.193*** (0.000)	0.195*** (0.000)	0.194*** (0.000)
Return on Assets	0.065** (0.029)	0.064** (0.032)	0.064** (0.031)	0.063** (0.035)
Ln(Market-to-Book)	0.067*** (0.000)	0.068*** (0.000)	0.068*** (0.000)	0.068*** (0.000)
Ln(Idiosyncratic Risk)	-0.011** (0.037)	-0.011** (0.035)	-0.011** (0.042)	-0.011** (0.039)
Financial Development	-0.002 (0.920)	-0.001 (0.931)	-0.002 (0.900)	-0.002 (0.916)
Firm and Year Fixed Effects	Yes	Yes	Yes	Yes
... with Year 2008	-0.109*** (0.000)	-0.137*** (0.000)	-0.066*** (0.000)	-0.096*** (0.000)
Firm-Year Observations	8,576	8,576	8,576	8,576

Number of Firms	2,047	2,047	2,047	2,047
Adjusted R-squared	0.1134	0.1141	0.1130	0.1137
F-statistic	18.69***	15.55***	18.92***	15.72***
Hausman Chi-Squared	351.54***	498.90***	43.48***	616.54***

This table displays regression coefficients and heteroskedasticity-robust p-values for firm fixed effects panel data regressions for the 2005-2010 period with Capital Expenditures as the dependent variable. All variables are defined as before. Coefficients for year dummy variables are not reported. \*\*\*, \*\* and \* indicate statistical significance at the 1%, 5% and 10% levels, respectively.