

# **International Evidence on Cash Holdings and Expected Managerial Agency Problems**

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## **ABSTRACT**

In this paper, we use a sample of over 5000 firms from 31 countries to explore the relation between expected corporate governance at the firm level, a firm's cash holdings and dividend policy, and its value as measured by Tobin's Q. We then extend the analysis to test whether country-level shareholder protection incrementally impacts these relations. We find that cash holdings are higher when the management group has effective control of a firm and that this relation is more pronounced as shareholder rights decrease. Our valuation tests indicate that minority shareholders discount the value of firms with a combination of expected managerial entrenchment and high cash balances or no dividend payments, and that these discounts are more pronounced in countries where minority shareholder rights are the weakest.

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## I. INTRODUCTION

Finance academicians and practitioners have for decades been interested in the implications of corporate holdings of cash. As with many corporate finance parameters, the expected relation between cash holdings and firm value will depend on whether the parameter – cash in this case – is put to good use. Broadly speaking, from a shareholder’s perspective, valuing the holding of cash by a corporation can be considered a tradeoff between the benefits of liquidity and the agency costs of potential overinvestment by managers. Myers (1984), Myers and Majluf (1984), and Almeida, Campello, and Weisbach (2003) argue that costly external finance makes it important for firms to maintain a cash reserve that provides sufficient liquidity so that positive NPV projects can continue to be funded even when internal cash flows decline. On the other hand, Easterbrook (1984) and Jensen (1986), among others, argue that agency costs of managerial entrenchment will cause shareholders to prefer that a firm not hold meaningful cash balances because these could potentially lead to overinvestment in negative NPV projects that serve managers better than they do shareholders. Shareholders of firms likely to have managerial agency problems should therefore benefit if the firm uses its cash to make dividend or interest payments.

In this paper, we use a sample of over 5000 firms from 31 countries to explore the relation between expected corporate governance at the firm level, a firm’s cash holdings, and its value as measured by a proxy for Tobin’s Q. Our expected firm level governance proxy is obtained by combining the ownership structure datasets of Claessens, Djankov, and Lang (2000) (Japan), Faccio and Lang (2002) (Western Europe), and Lins (2003)

(emerging markets) and identifying when the management group and its family is the largest blockholder of a firm's control rights. We propose that such a control structure proxies for effective managerial control of a firm and carries with it expected managerial entrenchment problems. We then extend the analysis to test whether country-level shareholder protection incrementally impacts these observed relations. We also investigate whether dividend payments are beneficial for minority shareholders and whether this relation depends upon expected firm-level and country-level governance.

Despite its importance, direct empirical tests of the linkage between firm-level expected managerial agency costs, cash balances, and value remain rare. The work that has been done tends to focus on U.S. firms and generally does not find a relation between cash holdings and firm-level governance parameters such as ownership structure or board composition. Blanchard, Lopez-de-Silanes, and Shleifer (1994) and Harford (1999) document a tendency for managers to spend large holdings of cash in an inefficient manner but neither paper is able to statistically link this inefficient investment to firm-level governance. Despite some limited evidence, Opler, Pinkowitz, Stulz, and Williamson (1999) also state that they are unable to demonstrate that firm-level proxies for managerial agency costs have an important impact on cash holdings. Mikkelson and Partch (2003) find that managerial agency cost proxies do not explain persistently high levels of cash holdings by some firms and do not explain differences in operating performance among high cash firms. Pinkowitz and Williamson (2002) do not include agency cost proxies in their tests on the value of cash holdings.

Looking at cash holdings and managerial agency problems outside the U.S. adds another important dimension – external shareholder protection – which should exacerbate

the tradeoff between the costs and benefits of holding cash. Where shareholder protection is weak, external finance opportunities are more limited (La Porta, Lopez-de-Silanes, Shleifer, and Vishny (hereafter LLSV) (1997, 1998)). Thus, the theory and U.S. firm evidence that constrained firms should hold higher levels of cash put forth in Almeida, Campello, and Weisbach (2003) indicates that cash balances could be more valuable when external shareholder protection is weak since external finance will be more costly.

However, poor shareholder protection is also associated with more severe expected agency costs of managerial entrenchment [LLSV (2002), Claessens, Djankov, Fan, and Lang (2002), Lins (2003), and Lemmon and Lins (2003)]. Thus, to the extent that cash balances are expected to be detrimental when potential managerial entrenchment is present, the reduction in value should be even more pronounced when external shareholder protection is relatively weak. Along this line of reasoning, Dittmar, Mahrt-Smith, and Servaes (2003) show in a sample of 11,000 firms from 45 countries that firms tend to have higher levels of cash in countries with little shareholder protection. Dittmar et al. interpret their findings as consistent with the idea that poorly protected investors cannot force managers to pay out excessive cash balances. Their dataset does not allow them to test for managerial agency problems at the firm level. Absent a firm-level agency cost proxy, it is also plausible that their results can be explained by a legitimate need for enhanced liquidity arising from more severe capital constraints. Our dataset allows for tests that incorporate both possibilities.

Our first tests use regression models along the lines of Opler et al. (1999), Harford (1999), and Dittmar, et al. (2003) that feature normalized cash holdings as the dependent

variable and our proxy for effective managerial control as the variable of interest, along with other control variables shown previously to be related to cash holdings. Across our full sample of firms from 31 countries, we find that cash holdings are significantly higher when the management group has effective control of a firm. When we incorporate the level of shareholder rights for a particular country as measured by the antidirector rights index constructed in LLSV (1998), we find that the positive relation between cash holdings and effective managerial control is significantly more pronounced as shareholder rights decrease.

We next use regression models featuring a proxy for Tobin's Q as the dependent variable to test whether there are valuation implications of cash holdings and, in particular, whether Q is correlated with the interaction between cash holdings and effective managerial control. Across our full sample of countries, we find that cash holdings are positively related to Tobin's Q. We do not find any significant relation between Q and the dummy variable when management is the largest control rights blockholder, nor do we find a relation between the interaction of managerial control and cash holdings. These results indicate that, across all countries, a corporation's cash holdings can be valuable, supporting the liquidity hypothesis, and that a combination of high cash balances and effective managerial control does not affect the valuation placed on firms by minority investors.

However, as mentioned previously, expected managerial agency problems are likely to be especially pronounced when minority shareholder protection is at its weakest. To assess this proposition, we interact a country's antidirector rights with firm-level cash holdings and then with managerial control variables and re-estimate our valuation

models. Our first model shows that cash holdings are associated with incrementally lower Tobin's Q values as antidirector rights decrease. This result indicates that minority investors who are not well protected apply a discount to firms holding high levels of cash and is consistent with the interpretation of the country-level results put forth in Dittmar, Mahrt-Smith, and Servaes (2003).

We wish to find out if the result that poorly protected minority investors discount cash holdings is consistent with these investors being concerned in particular that entrenched managers will not use their firm's cash holdings wisely. To assess this, we estimate a valuation model that has an interaction between managerial control and cash holdings and a separate interaction between managerial control, cash holdings, and shareholder rights. If minority investors are concerned with controlling managers squandering cash on negative NPV projects, and doing so more frequently when external governance is weakest, we would expect to see significant coefficients on both interaction terms. Our regression models show exactly such results. There is an incremental negative relation between Q and cash holdings when the management group is the largest blockholder and a further incremental negative valuation relation with cash holdings when the management is the largest blockholder and external shareholder protection decreases. The results of these models indicate that minority investors apply discounts to firms expected to have relatively severe managerial agency problems because they have a combination of managerial entrenchment, high cash holdings, and poor external protection against expropriation.

In the final part of our empirical analysis we evaluate whether dividend payments, which necessarily lessen cash balances, have an incremental relation with Tobin's Q and

whether this relation also depends upon whether the management group is the largest control rights blockholder and whether external shareholder protection is weak. Much academic research shows that dividends can be used to reduce agency costs (Easterbrook (1984), Jensen (1986, 1989), Hart and Moore (1994), Zwiebel (1996), Fluck (1998,1999), and Gomes (2000). In a broad cross-sectional study of U.S. firms over time, Fama and French (1998) show that the relation between firm value and dividends is positive.

On the international front, LLSV (2000) study over 4000 firms from 33 countries and find that for high shareholder protection economies, dividends work as they should – firms with high growth potential pay low dividends and firms with low growth potential pay high dividends. In low shareholder protection economies, LLSV find that firms pay low dividends and that growth potential has no relation to dividend payment. Faccio, Lang, and Young (2001) study dividend payments, industrial group membership, and ownership and control structures for almost 6000 firms from developed Western European economies and emerging East Asian economies. They find that dividends for Western European firms with both a strong group link and a separation in the major shareholder's ownership and control rights are significantly higher than dividends of similar East Asian firms. Broadly speaking, a common interpretation is offered by LLSV and Faccio, Lang, and Young: well protected shareholders are able to use their power to get dividends out of managers who should be paying them. Neither paper includes the cash holdings of a firm in its analysis.

To test whether dividends have an incremental impact on our previous findings, we add to our models explanatory variables consisting of an interaction between an indicator variable if a firm pays dividends and the indicator for effective managerial

control or the level of shareholder rights, and an interaction between all three of these parameters. Throughout these models, we find that our cash balance relationships continue to hold. We also find that Tobin's Q values are higher when the management group is the largest control rights blockholder and the firm pays dividends. Further, as shareholder rights decrease, we find an incremental positive relation between Q and dividend payments by firms whose management is in effective control. This set of results indicates that minority investors find dividend payments to be especially valuable when expected expropriation is likely to be highest.

Our work on the importance attached by investors to cash holdings in the context of firm-level and country-level governance is part of a growing literature on international corporate governance [for recent surveys, see Denis and McConnell (2003) and Claessens and Fan (2003)]. As mentioned at the outset, LLSV (2002), Claessens, et al. (2002), Lins (2003), and Lemmon and Lins (2003) provide large sample evidence that investors recognize the incentive and expropriation effects that result from the control held by management/family groups or major shareholders. Other researchers have identified firm-level parameters other than ownership structure that may account for, or perhaps reduce, the discount that minority investors place on firms who are likely to expropriate them. A sample of these parameters include internationally recognized auditors (Mitton (2002)), exchange-listed American Depositary Receipts (Doidge, Karolyi, and Stulz (2003)), internationally syndicated bank loans (Harvey, Lins, and Roper (2003)), and international equity analyst coverage (Lang, Lins, and Miller (2003)).

Summarizing, this paper takes a close look at the determinants and implications of cash balances held by firms around the world. In so doing, we expand upon the work that



has been done linking expected agency problems to reduced firm values in an international setting. We also provide another means of testing the importance of firm liquidity in an international setting. Taken together, our results provide some evidence that liquidity (as measured by cash holdings) is valuable for firms worldwide. However, they do not support the notion that cash holdings are more valuable when expected capital constraints resulting from poor external finance markets are more pronounced. In contrast, our results do provide compelling evidence that minority shareholders discount the value of firms with a combination of expected managerial entrenchment and high cash balances or no dividend payments, and that these discounts are more pronounced in countries where minority shareholder rights are the weakest.

The remainder of the paper is organized as follows. In the next section, we explain the sample selection process and provide descriptive statistics of key financial and corporate governance variables. Section III discusses the design of the empirical tests relating cash holdings, dividends, ownership structure, and firm value and presents the results. Section IV concludes.

## II. DATA

### *A. Sample Selection*

For our analysis, we obtain firm-level financial data for the fiscal year-end closest to December 31, 1996 from the Worldscope database. We eliminate financial firms (SICs 6000-6999) because their asset and liability accounting is not suitable for a Tobin's Q valuation measure. We match our non-financial Worldscope firms with ownership structure data for emerging markets from Lins (2003), for Western Europe from Faccio

and Lang (2002) and Japan from Claessens, Djankov, and Lang (2000). Ownership data from Lins (2003) and Claessens, Djankov and Lang (2000) are from the 1995/1996 period and those from Faccio and Lang (2002) range from 1996 to 1999, with the majority of sample observations occurring in 1996. These papers report ownership statistics that could proxy for a firm's internal corporate governance environment. For instance, the level of control rights held by the following types of blockholders are reported: Family/Management, Government, Widely-Held Corporations, Widely-Held Financials, and Miscellaneous (which includes ownership by Trusts, Cooperatives, Foundations, Employees, etc.). From these data it is possible to identify the largest blockholder of a firm's control rights. Our final sample consists of 5186 firms from 31 countries.

To measure firm-level governance, we focus in particular on management/family control rights, since it is the management group (and their families) that actually makes the operational and financial decisions of a firm. The management group consists of a firm's officers, directors, top-level managers and their family members. We proxy for effective managerial control, and the associated expected managerial agency problems that come with such control, by creating an indicator variable set equal to one when the management group and its family is the largest blockholder of a firm's control rights.

Data on the separation of cash flow ownership stakes and control rights ownership stakes that occur via pyramid ownership structures and superior voting shares are also presented in Faccio and Lang (2002), Lins (2003), and Claessens, Djankov and Lang (2000). However, these data are categorized using different algorithms, which makes it

difficult to construct a consistent measure for our analysis.<sup>1</sup> Given these difficulties, we focus our firm-level governance analysis on the control rights held by the management group and its family since this measure can be consistently identified for all sample countries.<sup>2</sup>

Next, we need to construct a measure for a firm's cash holdings, as we are interested in exploring the relationship between effective managerial control of a firm and the amount of cash and marketable securities held by the firm. The existing literature on cash holdings generally uses two ratios [see, among others, Opler et al. (1999) and Dittmar et al. (2003)]. The first one is the ratio of cash and short-term investments (marketable securities) to net assets (*Cash/a*), where net assets are computed as assets less cash and equivalents,<sup>3</sup> and the second one is the ratio of cash and short-term investments to sales (*Cash/s*).

Finally, we wish to analyze the impact of cash holdings on firm value. We use a proxy for Tobin's Q as a measure of the value of a company, computed as the market value of equity less the book value of equity plus book value of assets all divided by total assets. All financial variables are winsorized the 1<sup>st</sup> and 99<sup>th</sup> percentile to avoid problems with outliers.

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<sup>1</sup> Faccio and Lang and Claessens et al. report the separation of ownership and control for the largest blockholder of their sample firms (which may not be the Family/Management group), while Lins reports this measure for all holdings of the Family/Management group (which may not be the largest blockholder).

<sup>2</sup> We focus on control rights because our interest is in whether minority investors respond to concerns about governance problems created by concentrated managerial control. While we do not have data to separate the effect of managerial cash flow rights from control rights, the analysis in Faccio and Lang (2002) and Lins (2003) suggests that, for our sample, control rights often exceed cash flow rights because of pyramid ownership structures and superior voting shares.

<sup>3</sup> The main reason for netting out cash and equivalents from assets is that a firm's future profitability is closely related to its assets in place. We are interested in measuring cash scaled by this base.

*B. Summary Statistics*

Table 1 reports summary statistics by country for key financial variables and the percent of firms with the management group as the largest blockholder of control rights. The sample consists of relatively large firms, with mean total assets of US\$ 1437 million. The mean of the ratio short-term debt plus long-term debt divided by total assets is 0.25 for the whole sample, with South Korean firms having the highest leverage ratio of 0.49 and South African firm the lowest, 0.11.

Our primary ratio for the level of cash holdings, the ratio of cash and marketable securities to net assets, is displayed in the next column of Table 1. There is a substantial variation in this ratio, which enhances our ability to study the determinants of cross-sectional variation in cash reserves. The overall mean of cash to assets is 0.16, but this ranges from a low of 0.06 for Czech and Portuguese firms to a high of 0.22 for Norwegian firms. The ratio of cash and marketable securities to sales, which we use for robustness tests, follows a pattern similar to that of cash to assets. In our regression analysis, we include a variety of control variables that previous research has shown to explain variations in cash holdings. The ratio of capital expenditures to assets proxies for growth opportunities and has a sample mean of 0.06. The ratio of net working capital to net assets (sample mean 0.03), cash flow to net assets (sample mean 0.09) and the one-year sales growth (sample mean 0.12) represent other liquidity and performance/growth measures as described further in the next section. The full sample mean of our key valuation measure, Tobin's Q, is 1.45.

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The last two columns in Table 1 show the percentage of firms by country that paid dividends and the percentage of firms in which the management group is the largest blockholder of control rights. In the full sample of 31 countries, 62% of the firms paid dividends in the fiscal year-end closest to December 1996. Across these countries, management/family groups are by far the dominant controllers of firms as they are the largest control rights blockholder 61% of the time. Previous research has found similar results [La Porta et al. (1999), Claessens et al. (2000), Faccio and Lang (2002), Denis and McConnell (2003), and Lins (2003)].

### III. EMPIRICAL TESTS

#### A. *Cash holdings*

To assess the relation between cash holdings and ownership structure we use OLS regressions in which the log of cash to net assets (*Cash/a*) and the log of cash to sales (*Cash/s*) are the dependent variables. The variable of interest in our regressions is the dummy variable set equal to one when the management group is the largest blockholder of a firm's control rights. The regressions also include a selection of control variables. We control for firm size using the natural logarithm of total assets in thousands of US dollars. We use the ratio of long-term debt plus short-term debt divided by total assets as a control for leverage and the ratio of capital expenditures to assets proxies for a firm's potential investment opportunities. We expect that high debt levels will be associated with low cash holdings, because interest payments will use up cash as noted in previous studies [Jensen (1986)]. Similarly, high levels of capital spending are likely to be

associated with lower cash holdings. Both of these parameters could be linked to managerial agency problems given the work of McConnell and Servaes (1995) and Harvey, Lins, and Roper (2003) showing that debt could lessen or increase managerial agency problems depending upon the investment opportunity set faced by the firm.

We include the ratio of net working capital to net assets to capture additional liquid assets, which could indicate that lower cash balances need to be held. Following others in this literature, we compute the net working capital component as current assets minus current liabilities minus cash and short-term investments. We employ the ratio of cash flow to net assets as a proxy for profitability, which, all else equal, would be expected to generate higher levels of cash. We define cash flow as earnings before interest and taxes, plus amortization and depreciation minus interest payments minus taxes minus dividends paid. We also include in the models a firm's one-year sales growth as a current and future performance measure.<sup>4</sup> Because dividend payments constitute a payout of corporate cash holdings (Easterbrook 1984), all of our models contain a dummy variable equal to one if the firm paid dividends, and zero otherwise. All regression specifications include industry dummy variables based on industry groupings defined in Campbell (1996). In this way we control for systematic effects on cash holdings that may be associated with certain industries.

In addition to firm-level governance, our paper is also concerned with the external country-level environment along the lines of Dittmar et al. (2003). We use the LLSV (1998) measure of Antidirector Rights (which we call *SH Rights*) to proxy for the relative

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<sup>4</sup> While this variable can also be considered as a growth proxy, we find that it is not highly correlated with our capital spending to assets variable. For robustness, we re-estimate all of our cash holdings models using either sales growth or capital expenditures, but not both, and all results continue to hold.

treatment of minority shareholders across countries. *SH Rights* range from 0 to 5, with higher values indicating that corporate charters and legal rules treat outside shareholders more favorably. This variable is not reported for the Czech Republic, which is one of our sample countries. According to the World Bank Group the legal origin of the Czech Republic is German, so we set the *SH Rights* variable for this country equal to the sample mean of 2.33 from LLSV (1998) for German origin countries.

Because we ultimately wish to test for an interaction between shareholder protection (*SH Rights*) and effective managerial control, we estimate all of our models using a country random effects specification. Models that use country fixed effects do not allow for an interactive effect to be tested. We employ the Hausman test to see whether the choice of random country effects is appropriate. We find, for all of our models, that the coefficients estimated by the random effects estimator do not differ systematically from those estimated using a fixed effects estimator, which indicates that a random effects specification is an appropriate specification to choose.

Table II reports our regressions using  $\log(Cash/a)$  is the dependent variable. The first model reports coefficients on the control variables that are in line with expectations. For instance, proxies for current and future performance (cash flow to assets and sales growth) are positively related to cash holdings while parameters likely to lead to a use of cash (such as debt and capital expenditures) are negatively related to cash holdings. Dividend payments do not have a relation with cash holdings in this model.

More important for our analysis, we find that, after controlling for other factors, our proxy for effective managerial control is positively related to cash holdings at the 5% significance level across our full sample of firms from 31 countries. Because our

regressions control for factors such as growth opportunities that are linked to the liquidity needs of a firm, the positive relation between effective managerial control and cash holdings indicates that, across a broad sample of countries, managers may be holding more cash in order to maximize their own utility. This regression is suggestive of costly managerial agency problems since managers with effective control could have both the ability and the desire to keep relatively high levels of cash within the firm. In our subsequent valuation analysis conducted in the next subsection, we test this conjecture.

Model 1 controls for country effects across our full sample, but does not test whether cash balances are related to country parameters. Dittmar et al. (2003) find that a country's external governance is related to the level of cash holdings. Since external governance is positively correlated with capital market development (LLSV (1997), (1998)), we expect that the importance of liquidity for constrained firms put forth in Almeida, Campello, and Weisbach (2003) would also lead to such a finding. We test whether country level governance matters in our sample by including the variable *SH Rights* as an independent variable in the second regression specification in Table II. Consistent with the Dittmar et al. (2003) results, the coefficient on *SH Rights* is negative, but in our sample it is insignificant. The positive relation between effective managerial control and a firm's cash level remains significant in Model 2.

Models 1 and 2 combine to show that a proxy for poor expected governance at the firm level is positively related to cash holdings while a proxy for poor expected governance at the country level shows no such relation (at least not in our sample). We are particularly interested in testing whether the relation between poor expected firm-level governance and cash holdings depends upon expected country-level governance.



To assess this possibility, in Model 3 we add an interaction between the *SH Rights* variable and the variable indicating that the management group is the largest control rights blockholder. We find that the stand-alone coefficient on the dummy when the management is the largest control rights blockholder is 0.368 and is significant at the 1% level. The coefficient on the interaction between the management is the largest blockholder dummy and *SH Rights* is  $-0.078$  and also is significant at the 1% level. These coefficients indicate that when minority shareholders are less protected, firms hold incrementally higher levels of cash reserves when the management group is likely to have effective control of the firm.

To assess the potential economic significance of these coefficients, we compute their effect over the range of the *SH Rights* measure. A firm with effective managerial control from a high protection country such as the U.K. (*SH Rights* = 5) has no meaningful difference in its cash level from a firm whose management group does not have effective control of a firm since  $0.368 + (-0.078 \times 5) = -0.022$ . However, if a firm's managers have effective control of a firm and it is from a low shareholder rights country such as Italy (*SH Rights* = 1), its cash level will be 29% percent higher than a comparable firm whose management is not the largest control rights blockholder (computed as  $0.368 + (-0.078 \times 1) = 0.29$ ).<sup>5</sup>

For robustness, we re-estimate our models from Table II using  $\log(\text{Cash}/s)$  as the dependent variable. Table III reports the results of this analysis. The observed patterns in

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<sup>5</sup> The low extreme for this measure in our sample is Belgium which has a *SH Rights* measure of zero, indicating that its firms with effective managerial control would have 36.8% higher cash levels than comparable firms controlled by a large non-management blockholder.

the data are identical to those reported in Table II when  $\log(Cash/a)$  is the dependent variable.

Taken together, our results in Tables II and III add precision to the inferences drawn from country-level governance tests by Dittmar et al. (2003) that poorly protected minority investors cannot force managers to pay out excessive cash balances. They are also consistent with the prevailing evidence from studies of cash levels and managerial ownership for U.S. firms in which no relation between managerial agency cost proxies and cash levels is found. Our results indicate that effective managerial control is a crucial factor in the relation between corporate governance and cash holdings, but also that poor external governance needs to be present. The lack of a poor external governance setting could be the reason why studies focused on U.S. firms do not find a relation between cash holdings and firm level governance proxies.

In the next section, we test whether the high cash levels held by firms with effective managerial control have a relation to the valuation of such firms. We also test whether this relation depends on the shareholder protection prevailing in a country.

#### *B. Firm Value*

We begin our firm value analysis using a simple model based on the ones used to test the value of shareholder protection in LLSV (2002) and the value of managerial control in Lins (2003). Our proxy for Tobin's Q is the dependent variable and the log of total assets in thousands of U.S. dollars controls for firm size, the ratio of long and short term debt to assets is our leverage control, and the ratio of capital expenditures to assets

is our proxy for a firm's growth opportunities.<sup>6</sup> *SH Rights* (the Antidirector Rights index from LLSV (1998)) is our external shareholder protection measure. All models include industry indicator variables based on industry groupings as defined in Campbell (1996). We again control for country-specific effects using a country random effects specification and the Hausman test does not reject the null hypothesis that country effects are random for our models.

Table IV reports the results of this benchmark model in the first column. Consistent with prior literature, the coefficients on firm size and leverage are negative, and the coefficient on capital expenditures to assets is positive. While LLSV (2002) found for a sample of 539 firms from 27 countries that *SH Rights* is positively and significantly related to this proxy for Tobin's Q, we find in our larger sample a positive but insignificant coefficient on this measure. Nevertheless, the coefficient estimate is broadly in line with the ones reported by LLSV for various models.

The second model specification of Table IV includes a dummy variable equal to unity when the management is the largest control rights blockholder (*Mgmt LBH dummy*). As mentioned, this is our proxy for effective managerial control. Lins (2003) finds that managerial control is negatively related to Tobin's Q in low-protection emerging markets. Across our full sample of high and low shareholder protection countries, we do not find any significant relation between Tobin's Q and the dummy

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<sup>6</sup> LLSV use a 3 year growth in sales measure in their model as a growth opportunity proxy. Because of data limitations in the early 1990s, we employ the contemporaneous measure of capital expenditures to assets instead. Lins (2003) finds that, where available, 3 year sales growth is highly correlated with capital expenditures to assets and we find the same is true for our larger sample used in this paper. For robustness, we re-estimate our models using 1 year sales growth instead of capital expenditures to assets and find that our results are unchanged. The overall R-squared values using 1 year sales growth are lower than those using capital expenditures to assets, so we employ the latter growth proxy in all of our models.

variable when the management group and its family is the largest blockholder of a firm's control rights. This lack of significance is consistent with the Lins (2003) finding that the level of external shareholder protection plays an important role in determining whether minority investors discount the value of firms with effective managerial control.

In the next model we add a dummy variable equal to one if the firm pays dividends. Based on evidence from 31 countries, we find that paying dividends is associated with higher firm values after controlling for firm size, debt, capital expenditures, industry, and country. This result is consistent with the U.S.-based study conducted by Fama and French (1998) that finds a positive relation between firm value and dividends. It is also consistent with the conjectures made by LLSV (2000) that, around the world, minority investors place a value on dividends.

In the last regression of Table IV, we assess whether cash holdings have implications for firm value. We use the log of *Cash/a* as our cash holdings measure and also include the ratio of cash flow to assets as a proxy for profitability since profitable firms are likely to have more cash, all else equal. The coefficient on  $\log(\text{Cash}/a)$  is positive and significant which indicates that a firm's cash holdings can be valuable and is consistent with the liquidity hypotheses. This result is also consistent with the U.S. firm findings of Mikkelsen and Partch (2002) that large cash reserves are not associated with poor performance. We also find that a firm's cash flow is highly correlated with its Tobin's Q value, an expected result. To specifically test whether higher level of cash holdings have an incremental effect on Tobin's Q when the management is the largest blockholder of control rights, we interact *Mgmt LBH dummy* and  $\log(\text{Cash}/a)$ . In this full sample of countries with varying degrees of external shareholder protection, we do not

observe any relation between firm value and the interaction of managerial control and cash holdings.

Our Table IV regressions control for country effects but do not test whether country parameters have any relation with cash holdings and managerial control. We expect that managerial agency problems stemming from high cash holdings by managers with effective control of a firm will be particularly pronounced when a country's external shareholder protection is poor. Table V presents models that test this conjecture. In our first regression model in Table V we interact *SH Rights* with cash holdings. The coefficient on the interaction term is positive and significant. The positive coefficient indicates that cash holdings are significantly more valuable as shareholder protection increases or, on the flip side, that cash holdings are significantly less valuable as shareholder protection declines. Because of the strong correlation between shareholder rights and external capital market development, such a finding does not support the idea that a more shallow external capital market makes it more valuable for a firm to maintain liquidity by holding high levels of cash.

In Model 1, the stand-alone coefficient on cash holdings is  $-0.021$  but is insignificant. The stand-alone coefficient on *SH Rights* is positive and significant (consistent with LLSV (2002)). Summing coefficients, only a firm whose country has a shareholder protection of zero (Belgium is the only one in our sample) would be expected to have a discount in its Tobin's Q value in absolute terms as its cash level increased (calculated as  $-0.021 + (0.033 \times 0) = -0.021$ ). Nevertheless, the interaction term from this model still provides evidence of a relative firm value discount to cash holdings as shareholder protection decreases. This result is consistent with the Dittmar et al. (2003)

interpretation that, around the world, minority investors would force firms to pay out cash if their shareholder rights allowed them to do so.

We next revisit the Table IV result of no relation between firm value and the interaction of managerial control and cash holdings to see whether it depends on *SH Rights*. To test for such an effect, we add an interaction between managerial control, cash holdings, and *SH Rights* to the final regression model reported in Table IV. If outside investors assign an incrementally lower value to a firm with a given level of cash holdings and effective managerial control as shareholder rights decrease, we would expect to observe a positive coefficient on the interaction between managerial control, cash holdings, and *SH Rights*. The second column of Table V reports the results of this model. The stand-alone coefficient on cash holdings is positive and significant (0.105, p-value = 0.00) and the coefficient on cash held by managers in effective control of the firm is negative and significant (-0.044, p-value = 0.04). These coefficients indicate that cash held by firms with effective managerial control is less valuable than cash held by firms controlled by an outside blockholder. The three-way interaction between managerial control, cash holdings, and *SH Rights* has a positive and significant coefficient (0.011, p-value = 0.00) indicating that cash held when management is in effective control is incrementally less valuable as shareholder rights decline.<sup>7</sup> These two interaction coefficients are consistent with an incremental reduction in firm value associated with

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<sup>7</sup> However, there is not an absolute reduction in firm value associated with cash holdings by a firm whose management is in effective control of the firm as shareholder rights decline. For instance, the three-way interaction coefficient of 0.011 shows that, all else equal, compared to a firm from a country with shareholder rights of 5, a firm from a country with shareholder rights of 1 would have a 0.044 lower Q value ( $= 0.11 \times (1 - 5)$ ) and the coefficient of -0.044 on *Mgmt LBH \* Log (Cash/a)* is associated with a 0.044 lower Q value. However, the coefficient for cash holdings on a stand-alone basis is 0.105, which more than offsets the -0.088 effect of the coefficients on the interaction variables.

cash when there are multiple layers of agency problems. Relative to firms with no expected firm-level managerial agency problems, investors discount firms who hold high levels of cash when the management group has effective control. Investors additionally discount the value of firms who hold high levels of cash and for which the management group has effective control when minority shareholder rights are least protected.

Finally, we are also interested in whether dividend payments, which are a means of reducing cash balances, relate to our previous findings. Table VI reports on regression analyses that add interactions between dividends and effective managerial control and dividends and shareholder rights, as well as interactions between all three parameters. The first model adds an interaction between the management control dummy and a dividend dummy to the model reported in the last column of Table IV. In this specification, the incremental effect of paying dividends when the management has effective control of the firm is positive and insignificant.

Next, we follow up on the findings of LLSV (2000) that firms in countries with weak investor protection make low dividend payouts. We expect that paying dividends will be value increasing as minority shareholders are less protected. To assess this, we interact *SH Rights* with the dividend dummy variable. The coefficient is negative and significant which provides support for the hypothesis that minority investors place a particular value on firms that pay dividends when external corporate governance is relatively weak. Thus, these results support the ideas about dividend payments and value put forth, but not tested, in LLSV (2000).

In the last regression specification of Table VI, we include an interaction term between the proxy for effective managerial control, the dividend dummy, and the

Antidirector Rights index. We find only a marginally significant indication that firm value increases when management is the largest blockholder of control rights, pays dividends, and non-controlling shareholder rights are weakly protected (p-value = 0.13). We do see that the interaction between the dividend dummy and the dummy when the management is the largest blockholder is positive and significant in this regression specification. This latter finding indicates that when management has effective control of a firm, paying dividends could be value increasing.

Our analysis of Table VI indicates that paying dividends is potentially an effective step that can be taken by firms who wish to reduce the value loss associated with expected managerial agency problems stemming from poor expected firm level and country-level governance. Throughout our dividend analysis, we also find that all of our previously identified relationships between firm value and cash holdings and expected managerial agency problems continue to hold. Thus, our overall findings in Tables V and VI are consistent with the theme that minority investors discount firms with high levels of cash holdings and expected agency problems at the firm or country level, and that the discount for excess cash holdings is especially pronounced when both firm-level and country-level governance is weak.

#### IV. CONCLUSION

Existing research on U.S. firms by Opler, Pinkowitz, Stulz, and Williamson (1999), Harford (1999), and Mikkelsen and Partch (2003) shows that managerial agency cost proxies are unrelated to the levels of cash holdings by firms. Given the relatively strong minority shareholder protection prevailing in the U.S., it is arguably not surprising



that a relation between managerial ownership structure and cash holdings has not been found. Dittmar, Mahrt-Smith, and Servaes (2003) go some distance toward linking corporate governance parameters to cash holdings in their tests that incorporate country-level shareholder protection measures.

The first part of our paper closes the loop between the U.S. literature on cash holdings and firm-level managerial agency cost proxies and the nascent literature on cash holdings and country-level shareholder protection proxies. We use a sample of over 5000 firms from 31 countries to explore the relation between expected corporate governance at the firm level and country level and a firm's cash holdings and dividend policy. We proxy for effective managerial control of a firm and associated expected managerial entrenchment problems with a variable that indicates whether the management group and its family is the largest blockholder of a firm's control rights. Regressions show that cash holdings are significantly higher when the management group has effective control of a firm. When we incorporate the level of shareholder rights for a particular country (LLSV (1998)), we find that the positive relation between cash holdings and effective managerial control is significantly more pronounced as shareholder rights decrease.

In the second part of our paper, we use Tobin's Q to test whether there are valuation implications of cash holdings and, in particular, whether firm value is correlated with the interaction between cash holdings and effective managerial control. We find that Tobin's Q values are significantly more negative as shareholder rights decrease. This result indicates that minority investors who are not well protected apply a discount to firms holding high levels of cash and it adds precision to the inferences made by Dittmar, Mahrt-Smith, and Servaes (2003). We next incorporate effective managerial

control into our analysis. The results indicate that minority investors apply valuation discounts to firms likely to have relatively severe managerial agency problems because they have a combination of high cash holdings, expected managerial entrenchment, and poor external protection against expropriation. Finally, we show that dividend payouts can be especially valuable for minority shareholders when expected managerial agency costs are likely to be most severe.

Overall, our findings indicate that firms with expected managerial agency problems hold high levels of cash and that the combination of high cash levels and poor expected firm-level and country-level governance is associated with significantly lower firm values. Given these findings, a natural extension for future research would be to investigate whether there are mechanisms that can be employed by a firm's minority investors to potentially unlock via dividends or other methods the relatively high cash balances often held by firms with expected managerial agency problems.

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**Table I**  
**Financial Summary Statistics**

Firm-level financial data are obtained from the Worldscope database for the fiscal year-end closest to December 31, 1996. Size is total assets in millions of U.S. dollars.  $D/a$  is computed as short-term debt plus long-term debt to total assets.  $Cash/a$  is the ratio of cash and short-term investments to net assets. Net assets are total assets minus cash and short-term investments.  $Cash/s$  is the ratio of cash and equivalents to sales.  $Capex/a$  is the ratio of capital expenditures to assets.  $NWC/a$  is the ratio of net working capital to net assets, where NWC is current assets minus current liabilities minus cash and equivalents.  $CF/a$  is the ratio of cash flow to net assets, where cash flow in this case is operating income plus depreciation and amortization minus interest minus taxes minus dividends.  $Sgr1yr$  is the one-year sales growth.  $Tobin's Q$  is computed as market value of equity plus total assets less book value of equity all divided by total assets.  $Div$  is the percentage of firms by country that paid dividends.  $Mgmt LBH$  is the percentage of firms by country for which the management group and its family is the largest blockholder of control rights. Management control rights refer to all control stakes held directly and indirectly by a firm's officers and directors and their families. Data on control rights are obtained from Claessens, Djankov, and Lang (2000), Faccio and Lang (2002) and Lins (2003).

Country	# firms	Size	D/a	Cash/a	Cash/s	Capex/a	NWC/a	CF/a	Sgr1yr	Tobin's Q	Div	Mgmt LBH
Argentina	12	2799	0.27	0.07	0.09	0.08	-0.02	0.10	0.12	1.18	83%	33%
Austria	49	980	0.25	0.16	0.18	0.06	0.08	0.11	0.08	1.38	63%	57%
Belgium	71	1854	0.24	0.16	0.20	0.05	0.03	0.10	0.13	1.37	64%	99%
Brazil	102	2318	0.25	0.13	0.17	0.07	-0.04	0.08	0.20	0.91	60%	59%
Chile	58	867	0.23	0.07	0.11	0.09	0.05	0.10	0.23	1.34	82%	43%
Czech Rep	14	161	0.18	0.06	0.07	0.08	0.04	0.15	0.05	1.14	42%	12%
Finland	60	1055	0.27	0.16	0.12	0.09	0.05	0.14	0.11	1.52	80%	67%
France	407	2191	0.21	0.18	0.16	0.04	0.05	0.09	0.08	1.35	59%	79%
Germany	385	1884	0.20	0.10	0.09	0.06	0.15	0.10	0.09	1.44	49%	79%
Hong Kong	232	869	0.24	0.14	0.23	0.05	0.01	0.06	0.11	1.26	71%	80%
Indonesia	90	481	0.34	0.19	0.30	0.08	0.04	0.12	0.12	1.26	80%	64%
Ireland	44	496	0.25	0.19	0.33	0.07	-0.01	0.12	0.20	1.66	65%	27%
Israel	15	927	0.20	0.15	0.15	0.07	0.10	0.06	0.06	1.15	66%	66%
Italy	113	2975	0.22	0.15	0.25	0.05	0.04	0.09	0.01	1.14	53%	78%
Japan	989	2444	0.31	0.21	0.19	0.02	-0.04	0.05	0.05	1.22	66%	14%
Korea (South)	178	2339	0.49	0.08	0.10	0.08	-0.05	0.09	0.14	0.99	44%	80%
Malaysia	273	601	0.26	0.13	0.22	0.07	-0.002	0.08	0.25	2.19	79%	69%
Norway	86	826	0.31	0.22	0.26	0.10	0.01	0.14	0.22	1.67	62%	59%
Peru	23	240	0.23	0.08	0.15	0.07	0.05	0.13	0.28	1.30	47%	66%
Philippines	61	518	0.25	0.12	0.35	0.11	-0.01	0.09	0.17	1.54	50%	85%
Portugal	90	655	0.26	0.06	0.09	0.05	0.05	0.10	0.08	1.10	56%	70%
Singapore	154	564	0.23	0.19	0.30	0.08	-0.01	0.07	0.07	1.49	74%	65%
So. Africa	119	784	0.11	0.11	0.11	0.07	0.06	0.11	0.14	1.52	79%	57%
Spain	110	2008	0.17	0.10	0.14	0.04	0.01	0.10	0.07	1.34	60%	67%
Sri Lanka	12	66	0.23	0.09	0.12	0.09	0.07	0.10	0.17	0.97	58%	85%
Sweden	132	1410	0.21	0.16	0.16	0.05	0.08	0.11	0.14	1.70	66%	59%
Switzerland	110	1878	0.26	0.18	0.20	0.04	0.05	0.11	0.11	1.36	69%	69%
Taiwan	167	509	0.25	0.15	0.24	0.06	0.05	0.10	0.05	1.85	28%	82%
Thailand	180	382	0.44	0.07	0.16	0.08	-0.03	0.08	0.15	1.10	47%	55%
Turkey	32	354	0.14	0.18	0.11	0.08	0.12	0.25	0.93	2.02	56%	42%
UK	1198	896	0.18	0.15	0.14	0.06	0.03	0.09	0.14	1.85	72%	46%
<i>Overall mean</i>	<i>180</i>	<i>1437</i>	<i>0.25</i>	<i>0.16</i>	<i>0.18</i>	<i>0.06</i>	<i>0.03</i>	<i>0.09</i>	<i>0.12</i>	<i>1.45</i>	<i>62%</i>	<i>61%</i>

**Table II**  
**The Relation Between Cash Holdings, Ownership and Antidirector Rights Index**

The dependent variable is  $\log(\text{Cash}/a)$ . *Dividend dummy* equals to 1 if the firm pays dividends and 0 otherwise. *SH Rights* is the Antidirector Rights index from LLSV (1998), Table 2, and ranges from 0 to 5 with lower scores indicating fewer shareholder rights. The rest of the variables are explained in Table 1. Regressions include industry dummy variables (unreported for brevity) based on industry groupings in Campbell (1996) and country random effects. *p-values* are in parentheses below each coefficient.

Independent variables	(1)	(2)	(3)
Log (size)	0.056 (0.00)	0.056 (0.00)	0.057 (0.00)
D/a	-2.492 (0.00)	-2.493 (0.00)	-2.506 (0.00)
Capex/a	-0.014 (0.00)	-0.014 (0.00)	-0.014 (0.00)
NWC/a	-1.742 (0.00)	-1.746 (0.00)	-1.748 (0.00)
CF/a	2.110 (0.00)	2.102 (0.00)	2.089 (0.00)
Sales growth 1yr	0.00002 (0.14)	0.00002 (0.14)	0.0002 (0.14)
Dividend dummy	-0.013 (0.75)	-0.011 (0.78)	-0.012 (0.77)
Mgmt LBH dummy	0.082 (0.05)	0.081 (0.05)	0.368 (0.00)
SH Rights	-----	-0.032 (0.48)	0.020 (0.70)
Mgmt LBH*SH Rights	-----	-----	-0.078 (0.01)
Intercept	-2.763 (0.00)	-2.659 (0.00)	-2.870 (0.00)
Overall R <sup>2</sup>	0.115	0.115	0.115
Number of observations	5186	5186	5186



**Table III**  
**The Relation Between Cash Holdings, Ownership and Antidirector Rights Index**

The dependent variable is log (*Cash/s*). The rest of the variables are explained in Table 1 and Table 2. Regressions include industry dummy variables (unreported for brevity) based on industry groupings in Campbell (1996) and country random effects. *p-values* are in parentheses below each coefficient.

Independent variables	(1)	(2)	(3)
Log (size)	0.106 (0.00)	0.105 (0.00)	0.107 (0.00)
D/a	-1.994 (0.00)	-1.993 (0.00)	-1.992 (0.00)
Capex/a	-0.011 (0.00)	-0.011 (0.00)	-0.011 (0.00)
NWC/a	-1.604 (0.00)	-1.608 (0.00)	-1.616 (0.00)
CF/a	0.493 (0.02)	0.487 (0.03)	0.468 (0.03)
Sales growth 1yr	0.00002 (0.14)	0.00002 (0.14)	0.00002 (0.00)
Dividend dummy	-0.065 (0.14)	-0.064 (0.15)	-0.061 (0.17)
Mgmt LBH dummy	0.115 (0.00)	0.114 (0.00)	0.362 (0.00)
SH Rights	-----	-0.016 (0.73)	0.033 (0.487)
Mgmt LBH*SH Rights	-----	-----	-0.067 (0.03)
Intercept	-2.627 (0.00)	-2.574 (0.00)	-2.297 (0.02)
Overall R <sup>2</sup>	0.096	0.097	0.096
Number of observations	5177	5177	5177

**Table IV**  
**The Relation Between Value, Cash Holdings and Managerial Control**

The dependent variable is Tobin's Q computed as market value of equity plus total assets less book value of equity all divided by total assets.. The rest of the variables are explained in Table 1 and Table 2. Regressions include industry dummy variables (unreported for brevity) based on industry groupings in Campbell (1996) and country random effects. *p-values* are in parentheses below each coefficient.

Independent variables	(1)	(2)	(3)	(4)
Log (size)	-0.036 (0.00)	-0.037 (0.00)	-0.041 (0.00)	-0.049 (0.00)
D/a	-0.451 (0.00)	-0.447 (0.00)	-0.407 (0.00)	-0.087 (0.21)
Capex/a	0.012 (0.00)	0.012 (0.00)	0.011 (0.00)	0.009 (0.00)
SH Rights	0.050 (0.19)	0.049 (0.21)	0.047 (0.24)	0.058 (0.13)
Mgmt LBH dummy	-----	-0.025 (0.32)	-0.028 (0.27)	-0.043 (0.35)
Dividend dummy	-----	-----	0.052 (0.03)	-0.014 (0.57)
CF/a	-----	-----	-----	1.102 (0.00)
Log (Cash/a)	-----	-----	-----	0.106 (0.00)
Mgmt LBH*Log(Cash/a)	-----	-----	-----	-0.003 (0.82)
Intercept	1.772 (0.00)	1.807 (0.00)	1.986 (0.00)	2.211 (0.00)
Overall R <sup>2</sup>	0.114	0.114	0.115	0.141
Number of observations	5102	5102	5102	5102

**Table V**  
**The Relation Between Value, Cash Holdings, Managerial Control, and Shareholder Rights**

The dependent variable is Tobin's Q computed as market value of equity plus total assets less book value of equity all divided by total assets.. The rest of the variables are explained in Table 1 and Table 2. Regressions include industry dummy variables (unreported for brevity) based on industry groupings in Campbell (1996) and country random effects. *p-values* are in parentheses below each coefficient.

Independent variables	(1)	(2)
Log (size)	-0.048 (0.00)	-0.049 (0.00)
D/a	-0.097 (0.16)	-0.092 (0.18)
Capex/a	0.010 (0.00)	0.010 (0.00)
Dividend dummy	-0.008 (0.75)	-0.012 (0.64)
Log (Cash/a)	-0.021 (0.32)	0.105 (0.00)
CF/a	1.132 (0.00)	1.103 (0.00)
SH Rights	0.151 (0.00)	0.079 (0.05)
Log (Cash/a)*SH Rights	0.033 (0.00)	-----
Mgmt LBH dummy	-----	-0.038 (0.41)
Mgmt LBH*Log (Cash/a)	-----	-0.044 (0.04)
Mgmt LBH*Log (Cash/a)*SH Rights	-----	0.011 (0.00)
Intercept	1.682 (0.00)	1.977 (0.00)
Overall R <sup>2</sup>	0.147	0.143
Number of observations	5102	5102

**Table VI**  
**The Relation Between Value, Cash Holdings, Dividend Payments, Managerial Control, and Shareholder Rights**

The dependent variable is Tobin's Q computed as market value of equity plus total assets less book value of equity all divided by total assets.. The rest of the variables are explained in Table 1 and Table 2. Regressions include industry dummy variables (unreported for brevity) based on industry groupings in Campbell (1996) and country random effects. *p-values* are in parentheses below each coefficient.

Independent variables	(1)	(2)	(3)
Log (size)	-0.049 (0.00)	-0.048 (0.00)	-0.048 (0.00)
D/a	-0.087 (0.21)	-0.098 (0.15)	-0.093 (0.18)
Capex/a	0.009 (0.00)	0.009 (0.00)	0.009 (0.00)
Dividend dummy	-0.029 (0.41)	0.246 (0.00)	-0.039 (0.27)
Log (Cash/a)	0.106 (0.00)	-0.032 (0.13)	0.105 (0.00)
CF/a	1.099 (0.00)	1.226 (0.00)	1.117 (0.00)
SH Rights	0.058 (0.15)	0.207 (0.00)	0.087 (0.06)
SH Rights*Log (Cash/a)	-----	0.035 (0.00)	-----
Mgmt LBH dummy	-0.063 (0.27)	-----	-0.064 (0.27)
Mgmt LBH*Log(Cash/a)	-0.004 (0.78)	-----	-0.039 (0.08)
Mgmt LBH*Log (Cash/a)*SH Rights	-----	-----	0.009 (0.05)
Mgmt LBH*Dividend dummy	0.027 (0.55)	-----	0.136 (0.07)
SH Rights*Dividend dummy	-----	-0.075 (0.00)	-----
Mgmt LBH* Dividend dummy*SH Rights	-----	-----	-0.028 (0.13)
Intercept	2.225 (0.00)	1.820 (0.00)	2.303 (0.00)
Overall R <sup>2</sup>	0.141	0.149	0.143
Number of observations	5102	5102	5102