

Cash Holdings and Corporate Governance Around the World*

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Abstract

In this paper, we provide new and complementing international evidence on the relation between cash holdings, corporate governance, and firm value. Our sample consists of a cross-section of 1,875 firms from 46 emerging and developed countries in 2007. We construct eight different measures of firm-level corporate governance based on 64 individual governance attributes provided by Governance Metrics International (GMI). We present three new main findings. First, firms with poor firm-level governance hold significantly more cash than firms with better firm-level governance. Second, we document a positive effect of cash holdings on firm value for firms with good firm-level corporate governance. A likely explanation is that in firms with weak firm-level governance, higher cash holdings might be exploited by the management and invested in negative-NPV projects. Third, we find that a payout of excess cash by means of dividend payments, which reduces the possibility for managers to waste cash on negative-NPV projects, also positively affects the valuation effect of cash holdings. Moreover, firms with comparatively low firm-level corporate governance can still profit from cash holdings if they maintain relatively high dividend payout ratios. We control for country-level corporate governance in our analyses but find its effect to be limited and dominated by the effect of firm-level governance.

Keywords: Cash holdings; Corporate governance; Firm value; Dividend payout

JEL Classification: G32; G34; G35

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Abstract

In this paper, we provide new and complementing international evidence on the relation between cash holdings, corporate governance, and firm value. Our sample consists of a cross-section of 1,875 firms from 46 emerging and developed countries in 2007. We construct eight different measures of firm-level corporate governance based on 64 individual governance attributes provided by Governance Metrics International (GMI). We present three new main findings. First, firms with poor firm-level governance hold significantly more cash than firms with better firm-level governance. Second, we document a positive effect of cash holdings on firm value for firms with good firm-level corporate governance. A likely explanation is that in firms with weak firm-level governance, higher cash holdings might be exploited by the management and invested in negative-NPV projects. Third, we find that a payout of excess cash by means of dividend payments, which reduces the possibility for managers to waste cash on negative-NPV projects, also positively affects the valuation effect of cash holdings. Moreover, firms with comparatively low firm-level corporate governance can still profit from cash holdings if they maintain relatively high dividend payout ratios. We control for country-level corporate governance in our analyses but find its effect to be limited and dominated by the effect of firm-level governance.

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1. Introduction

Holding liquid assets such as cash can be a double-edged sword for a firm. On the one hand, it provides flexibility to firms allowing them to avoid costs from underinvestment in positive-NPV projects due to lack of resources. On the other hand, cash holdings are prone to be invested in negative-NPV projects by managers or directors aiming to extract private benefits, an argument developed by Jensen (1986) and Stulz (1990).

Existing evidence on country-level governance suggests that firms in countries where shareholder rights are relatively less protected hold more cash than firms in countries with good shareholder protection (Dittmar et al., 2003). Moreover, Pinkowitz et al. (2006) show that the relation between cash holdings and firm value is weaker in countries with low shareholder protection. As to what concerns firm-level governance, there is a wide range of empirical research on the value of cash holdings when the underinvestment problem is prevalent (e.g., Mikkelson and Partch, 2003; Almeida et al., 2004). However, the existing studies on both U.S. and international firms have failed to provide evidence that poor firm-level governance is linked to higher cash holdings or that the combination of high cash holdings and poor firm-level governance has a negative effect on firm value. Harford (1999) and Opler et al. (1999), for example, find no significant relationship between cash holdings and firm-level corporate governance. More recent U.S. evidence by Harford et al. (2008) suggests that firms with poor governance do not hold more but actually less cash, but that among a set of firms with high cash holdings, firms with poor governance spend their cash more quickly. Kalcheva and Lins (2007) investigate these issues in an international context. Across all countries of their international sample, they find no significant relationship between firm-level governance and cash holdings, or between firm-level governance, cash holdings, and firm value. The benefit of using an international sample stems from the possibility to introduce an additional dimension of corporate governance, namely country-level

governance. The findings presented by Kalcheva and Lins (2007) suggest that once differences in country-level governance are taken into account, firm values are indeed lower when poor firm-level governance is combined with high cash holdings. One potential problem in this study is that firm-level governance has to be restricted to management and family control rights due to data availability. These variables, however, reflect only one specific aspect of corporate governance. Moreover, the relation between this variable and firm value has been shown to be nonlinear (e.g., McConnell and Servaes, 1990) or insignificant when accounting for the endogeneity of manager ownership (e.g., Loderer and Martin, 1997).

In this paper, we improve on the measures of firm-level corporate governance used in earlier international studies investigating the relationship between cash holdings and corporate governance, and the effect of these two variables – and their interaction – on firm value. In a cross-section of between 1,655 and 1,875 firms from 46 emerging and developed countries, we use 64 governance attributes provided by Governance Metrics International (GMI) for the year 2007 to construct eight different measures of firm-level corporate governance. We find results which are in stark contrast to prior studies including the international results obtained by Kalcheva and Lins (2007).¹ Our three main findings are the following: First, we document a strong negative relationship between firm-level corporate governance and cash holdings. Consistent with the free cash flow hypothesis, firms with relatively poor governance hold significantly more cash than their better governed peers. This finding is novel and in contrast to the existing U.S. evidence, which shows a positive relationship between firm-level governance and cash holdings (e.g., Harford et al., 2008), and the existing international evidence, which fails to document any significant relationship between cash holdings and firm-level corporate governance (e.g., Kalcheva and Lins, 2007). We further present

¹ Unfortunately, it is not possible to pin down these differences in results to either the corporate governance variables used or the sample year as our corporate governance data is not available for 1996, the sample year used in Kalcheva and Lins (2007), and generally not before 2003 (when coverage was still very sparse). On the other hand, the measures of manager and family control used in Kalcheva and Lins (2007) are not available for 2007, our sample year.

evidence that this relationship is somewhat dampened for firms in countries with weak shareholder rights protection. Second, we document that in general higher cash holdings have a positive effect on firm value. We further show, however, that this positive effect is not prevalent in all firms but is restricted to firms with comparatively high firm-level corporate governance. In other words, to benefit from cash holdings, firms have to have a good corporate governance in place. The flipside of this explanation, of course, is that firms with poor firm-level governance do not benefit from holding more liquid assets because such firms are not successful in impeding managers from extracting private benefits from cash holdings. This finding also holds when we control for country-level corporate governance. Third, we investigate whether the value of cash holdings depends on the firms' payout policy as a payout of excess cash reduces the possibility for managers to waste cash for negative-NPV projects. Our results show that interaction terms between cash holdings and the payout ratio, between cash holdings and corporate governance, and between corporate governance, cash holdings, and the payout ratio are all positive and significant. Hence, our results indicate that the value of cash is not only positively related to the companies' corporate governance but also to their dividend payments. In other words, cash is only valuable to a firm if either a sound corporate governance structure or a payout of excess cash (or both) reduce the possibility for managers to waste cash for negative-NPV projects. Moreover, by looking at sub-samples of poorly and well governed firms separately, we show that firms with poor corporate governance can still profit from cash holdings if they maintain relatively high dividend payout ratios.

The remainder of this paper is organized as follows. Section 2 describes the data and construction of variables used in this study. Section 3 presents the results from the empirical analysis. Section 4 concludes.

2. Data and variables

2.1 Corporate governance data

We use data on firm-level corporate governance attributes provided by Governance Metrics International (GMI), which started providing governance data in 2003. GMI constructs a governance rating for all firms covered in their database using a proprietary scoring algorithm. To construct these ratings (which we do not use in this paper), GMI assembles information on individual governance attributes. We use 64 such individual governance attributes for the construction of our measures of firm-level corporate governance. The starting point for our sample are all firm-year observations in 2007. The reason for our focus on 2007 is that GMI broadened its coverage in 2007 considerably, and the number of countries covered by GMI nearly doubled in 2007. Since our purpose is to investigate firm-level as well as country-level governance, a sample covering more countries leads to a higher variance in country-level governance and hence is better suited for our analysis. Our cross-section consists of 1,875 observations from 46 different emerging and developed countries.

For each of the 64 governance attributes gathered, GMI assesses if a firm attains a minimum level of implementation. The 64 attributes we consider are sub-categorized by GMI into six categories, namely 1) board accountability, 2) financial disclosure and internal control, 3) shareholder rights, 4) remuneration, 5) market for control, and 6) corporate behavior. We code a value of one to each governance attribute that a firm has in place and zero otherwise. Table 1 provides an overview of the 64 governance attributes and shows the percentage of firms meeting these criteria according to GMI's thresholds. A comparison of Table 1 with corresponding results from studies using other databases of international firm-level corporate governance such as ISS (e.g., Aggarwal et al., 2009) shows that the level of implementation of governance attributes is similar for the governance attributes provided by

both data providers. Using these 64 governance attributes, we construct eight different firm-level corporate governance measures (governance indices). We compute the first governance index (CGIALL1) as the percentage of all 64 governance attributes a firm has in place relative to the number of governance attributes GMI provides information on. For the second index, CGICORE1, we exclude all attributes from the corporate behavior category and calculate the index as the percentage of the remaining 55 governance attributes a firm has in place relative to the number of governance attributes GMI provides information on. The reason for this omission is that it is arguable whether these variables really form a part of what is traditionally referred to as corporate governance.² The third index, CGIRED1, is built from a sub-sample of governance attributes, where we focus on 17 governance variables that have been used in prior studies and which can be considered "typical" firm-level corporate governance measures. The governance variables considered in CGIRED1 are governance attributes 8 to 15, 19 and 20 from the board accountability category, attribute 25 from the financial disclosure and internal control category, attribute 30 from the shareholder rights category, attributes 35 and 40 from the remuneration category, and attributes 47, 52, and 53 from the market for control category. The fourth index, CGICL1, considers an even smaller number of governance variables for potential comparability with Chhaochharia and Laeven (2009) who also use an international sample of firm-level corporate governance measures to build an index consisting of 17 attributes only. Hence, CGICL1 uses the 11 attributes that we have in common with Chhaochharia and Laeven (2009). These are the governance attributes 10, 20, 25, 30, 32, 33, 40, 46, 47, 52, and 54. The second set of four governance indices is computed similarly, the only difference being that these indices measure the percentage of governance attributes a company has in place relative to all 64 attributes included in the first index (or the 55, 17, and 11 attributes in the second, third, and

² The corporate governance attributes summarized in the corporate behavior category are not covered by the other well-known governance rating agencies such as for example ISS. Hence, these attributes are not included in other international corporate governance studies (e.g., Aggarwal et al., 2009; Chhaochharia and Laeven, 2009).

fourth index, respectively). For this second set of governance indices, we thus treat governance attributes on which we have no information as if these attributes were not in place. If the probability that a firm discloses information on a specific governance attribute is positively correlated with the probability that an attribute is adopted, we would expect a stronger valuation effect of this second set of governance indices as compared to the first set. The four measures of this second set are denoted by CGIALL2, CGICORE2, CGIRED2, and CGICL2. The additive nature of index construction that we use is a common feature in the literature (see, e.g., Gompers et al., 2003; Bebchuck and Cohen, 2005; Aggarwal et al., 2009; Bebchuk et al., 2009).

As a measure of country-level governance, we use the anti-director index of La Porta et al. (1998) in its revised form as proposed by Djankov et al. (2006). In robustness tests, we also use a revised version of the original anti-director index as proposed by Spamann (2010), and the country-level indicators of Kaufman et al. (2008).

2.2 Financial data

We obtain the financial data for the companies included in our sample from Worldscope. Following the literature on cash holdings (e.g., Dittmar et al., 2003; Kalcheva and Lins, 2007), our measure of cash is defined as the ratio of cash and short-term investments to net assets, where net assets are defined as total assets minus cash and short-term investments. We use Tobin's Q as the measure for firm value and compute it as total assets less the book value of equity plus the market value of equity, divided by total assets. We control for several variables which have been shown to explain variation in cash and firm value. To control for firm size, we use the natural logarithm of total assets. To control for leverage, we use the ratio of total liabilities to total assets. To control for a firm's potential investment opportunities, we use the ratio of capital expenditures to assets. To control for profitability, we em-

ploy the ratio of cash flow to net assets, where cash flow is defined as earnings before interest, taxes and depreciation minus interest payment minus dividend payments. Furthermore, we include industry dummies, as defined by Campbell (1996). In the regressions where cash is the dependent variable, we use two further control variables. To control for additional liquid assets, we use the ratio of non-cash net working capital to net assets, and to control for current and future performance, we use the year-before to year-end sales growth. To mitigate the effect of outliers, we winsorize all financial variables at the 1st and 99th percentile, and to mitigate the effect of the skewed distribution of our cash variable, we follow the literature and use its logarithm in our empirical analyses. Table 2 provides an overview of the financial variables used in this paper on a country-level. The third column displays summary statistics for the variable of main interest, our cash variable. The overall mean of this variable is 0.17, with values ranging from a low of 0.03 for Colombia to a high of 0.31 for Taiwan. We note that the overall mean of 0.17 is considerably larger than the 0.12 by Kalcheva and Lins (2007) for their cross-section of firms from 1996. The summary statistics for the other control variables are largely in line with those of other studies.³

3. Empirical analysis

3.1 Cash holdings

In this sub-section, we perform regression analyses in which the level of cash is estimated as a function of several different measures of firm-level corporate governance, a measure of country-level shareholder protection, and control variables. Throughout all empirical analyses in the paper, we use White (1980) standard errors that are robust to heteroskedasticity.⁴ Tables 3 and 4 report the results of these regression analyses where the log of our cash vari-

³ Another commonality of our sample with other recent international samples is the large fraction of U.K. and Japanese firms in our sample. In unreported robustness tests, we find our results to be robust to the exclusion of either of these two countries and also of both countries simultaneously.

⁴ Our results remain unchanged if we use different types of standard errors, such as for example standard errors that are clustered at the country-level.

able is the dependent variable. In Table 3, we test for the impact of firm-level corporate governance on firm cash holdings. In Columns (1) to (4), we use the four governance indices ignoring missing governance attributes and in Columns (5) to (8), we use the four governance indices that treat missing governance attributes as if they were not in place. The results presented in Table 3 show that regardless of which measure of firm-level corporate governance we use, its coefficient is always negative and statistically significant at the 1% level. Because we control for factors that are closely linked to the liquidity needs of a firm such as growth opportunities or profitability, the negative relationship between firm-level corporate governance and cash holdings indicates that the management of poorly governed companies is more likely to hoard cash, possibly to extract private benefits from these liquid assets. On the other hand, country-level corporate governance does not seem to be significantly related to cash holdings as indicated by the insignificant coefficients on CGOV.

In Table 4, we investigate whether the negative relationship between firm-level corporate governance and cash holdings depends on country-level governance. To do this, we add an interaction term between the anti-director index of La Porta et al. (1998) in its revised form (CGOV) as proposed by Djankov et al. (2006) and the firm-level governance measures. For every measure of firm-level corporate governance, the coefficient on the standalone firm-level governance measures is again negative and significant, confirming that our findings in Table 3, that poorly governed companies hold more cash, is also valid if we account for a possible interaction effect between firm- and country-level governance. In each column, the coefficient on the interaction term between firm-level- and country-level governance is positive but mostly insignificant (with the exception of Columns (1) to (3)). A positive coefficient on the interaction term indicates that companies with comparatively good governance (high CGI score), which are based in a country with comparatively good country-level governance (high CGOV score), will hold more cash. The coefficient on country-level gover-

nance is always negative but insignificant with two exceptions (Columns (1) and (3)). Hence, there is only very weak evidence that good country-level corporate governance is also associated with lower cash holdings.

Summarizing, our results on the determinants of firms' cash holdings presented in Table 3 provide strong evidence that higher cash holdings and firm-level corporate governance are negatively related, regardless of the variables we use to measure firm-level governance. The results reported in Table 4 provide some evidence that this negative relation is slightly weakened when country-level shareholder protection is weak.

3.2 Firm value

Before we investigate the interrelation between cash holdings and corporate governance and their effect on firm value, we assess the standalone impact of cash and firm-level governance on firm value. In Table 5, we estimate models that include our eight different governance measures, cash, and a set of four control variables. The results show that firms with better firm-level corporate governance also have higher firm values, a finding that has been documented extensively in the literature for the U.S. market (e.g., Gompers et al., 2003) and for international samples (e.g., Chhaocharia and Laeven, 2009; Ammann et al., 2010). The coefficient on cash is positive and significant at the 1% level in all specifications, a finding that is again in line with earlier research (e.g., Kalcheva and Lins, 2007). The coefficient on CGOV is negative in all columns and borderline significant in four out of the eight specifications. This finding is surprising because a negative relationship between country-level governance and firm value is at odds with findings in earlier literature such as La Porta et al. (2002). However, we caution that much of the literature documenting a positive relationship between firm value and country-level governance, such as La Porta et al. (2002) or Kalcheva and Lins (2007), work with relatively old samples. For example, both La Porta et al. (2002)

and Kalcheva and Lins (2007) use a cross-section of observations from 1996. It is without a doubt that international capital markets have developed and converged tremendously in the time between 1996 and 2007, the year our sample is based on. We thus refrain from drawing too strong conclusions from the negative coefficient on country-level governance.^{5,6}

In Table 6, we investigate whether controlling for country-level shareholder protection, higher levels of cash have a more beneficial effect on firm value if corporate governance is better, i.e., the possibilities for management to extract private benefits from cash holdings are reduced. We do this by including an interaction term between cash holdings and our governance indices in our analysis. In each column of Table 6, this interaction term between cash holdings and firm-level corporate governance is positive and statistically significant at least at the 5% level with one exception (in Column 5 significant at the 10% level). The coefficient on the standalone firm-level governance is not changed by the inclusion of the additional interaction term and remains significantly positive in every model. This finding suggests that to capture the benefits of having more cash available, a company needs to have a well-functioning corporate governance in place to curb managers' possibilities to make ill use of the liquid assets at their disposal. The flipside of this explanation is that firms with comparatively poor corporate governance experience negative effects of cash holdings on firm value, precisely because the lack of shareholder protection and/or management oversight enables the misuse of cash for negative present value projects. We also note that the standalone coefficient on cash turns insignificant in all models of Table 6, providing evidence that the positive effect of cash holdings across all companies documented in Table 5

⁵ The finding of a negative influence of country-level corporate governance on firm value is robust to the use of different measures for country governance. Using the original measure proposed by La Porta et al. (1998), the corrected index proposed by Spamann (2010), or the measure proposed by Kaufman et al. (2008) does not alter this result.

⁶ In unreported robustness tests, we also tested whether the valuation effect of CGOV (or the alternative country-level measures of corporate governance) is captured by our measures of firm-level corporate governance. This does not seem to be the case: When we exclude firm-level corporate governance from the regressions specifications in Table 5, the coefficient on CGOV remains negative and mostly insignificant in all specifications.

vanishes once we account for the interaction of cash with governance. In other words, to benefit from higher cash holdings, firms have to have comparatively better corporate governance in place.

In unreported results, we also examine the effect that country-level corporate governance has on the findings reported in Table 6. Previous research, such as Kalcheva and Lins (2007), documents that for cash to have a positive impact on firm value, not only firm-level governance but country-level governance has to be high as well. When we follow Kalcheva and Lins (2007) and include an additional term that interacts firm-level governance, cash holdings, and country-level governance, we find this coefficient to be insignificant regardless of which measure for firm-level governance we use. This is not entirely surprising, keeping in mind the negative effect of country-level governance on firm value we documented in Tables 5 and 6. Our findings thus point into the direction that firm-level governance is the driving force in determining the positive effect of cash holdings on firm value with country-level governance playing a minor role.

3.3 Total dividend payment

One could hypothesize that among companies with poor firm-level corporate governance, those that payout cash to shareholders are more highly valued than those that stock cash (e.g., see La Porta et al., 2000). Hence, we extend the analysis in Section 3.2 by accounting for the firms' payout to shareholders. To our knowledge, the only study attempting to relate the valuation effect of cash holdings not only to corporate governance but also to the firms' payout policy is Kalcheva and Lins (2007). Most importantly, their results show that when country governance is weak, firm value is higher when companies pay dividends. However, the results on firm-level corporate governance, which is measured by managerial ownership

only, are less clear. Most specifications suggest that paying a dividend is more valuable to shareholders of companies with a high managerial ownership.

We use two different approaches to investigate whether a higher payout ratio is more valuable to shareholders of poorly governed firms. In the first approach, we estimate similar regressions as in Table 6 and include two new variables. The first variable, PAYOUT, is defined as a firm's total dividend payments divided by its total assets. In addition, we include an interaction term between PAYOUT and CASH to investigate whether the valuation effect of cash depends on the firm's payout policy. The results are reported in Columns 1 and 2 of Table 7 for the two alternative corporate governance indices CGIALL1 (Column 1) and CGIALL2 (Column 2), respectively. Consistent with previous findings, the coefficients on CGIALL1 and CGIALL2 are both positive and significant, the coefficient on CASH is negative and significant, and the interaction term between corporate governance and CASH is positive and significant in both columns indicating that only well-governed firms benefit from cash holdings. The coefficient on PAYOUT is positive and significant in both columns indicating that higher dividend payments are positively associated with firm value. Most importantly, the coefficients on the interaction term between CASH and PAYOUT are positive and significant in both columns as well. Hence, our results indicate that the value of cash is not only positively related to the companies' corporate governance but also to their dividend payments. In Columns 3 and 4, we additionally interact the interaction term between CASH and PAYOUT with the corporate governance variable. The coefficients on these three-way interaction terms are positive and significant in both columns while all other coefficients remain virtually unchanged. Hence, good firm-level corporate governance seems to reinforce the positive valuation effect a high payout ratio has on cash holdings and vice versa. Summarizing, the results in the first four columns indicate that cash is only valuable to a firm if either a sound corporate governance structure or a payout of excess cash (or both) reduce the possibility for managers to waste cash for negative-NPV projects.

In the second approach, we build sub-samples based on whether a company's corporate governance score is in the bottom or top quartile.⁷ For these sub-samples, we then estimate separate regressions which also include PAYOUT and an interaction term between PAYOUT and CASH in addition to the control and governance variables included in the regressions reported in Table 6. Based on our previous results, we would expect that the value of cash is higher in well governed firms and that in poorly governed firms the value of cash is higher in firms paying more dividends. The results are reported in Columns 5 to 8 of Table 7. The regressions in Columns 5 and 7 include all firms with a CGIALL1 and a CGIALL2 score in the bottom quartile, respectively. Columns 6 and 8 include all firms with a CGIALL1 and a CGIALL2 score in the top quartile, respectively. The results show that, in accordance with the results in Table 6, the coefficient on CASH is positive and highly significant at the 1% level in Columns 6 and 8 and borderline significant or insignificant in Columns 5 and 7. Hence, the positive effect of cash holdings on firm value is restricted to high-governance firms while poorly governed firms seem not to be able to benefit from the flexibility that holding more cash offers, possibly due to increased agency conflicts. Most importantly, the interaction term between CASH and PAYOUT is positive and (borderline) significant in poorly governed firms only (i.e., Columns 5 and 7). Hence, consistent with Columns 1 to 4, these results show that in poorly governed firms the valuation effect of cash holdings depends on the firms' payout policy. Poorly governed firms profit from cash holdings only when they maintain relatively high dividend payout ratios.

In unreported results, we alternatively use a broader definition of a company's payout to shareholders. We define this payout variable as the amount of dividends paid plus the amount of money used for stock repurchases minus the proceeds from stock issuance, all scaled by the company's total assets. Interestingly, when we use this broader measure of

⁷ We also used other quantiles to classify our sample firms into well and poorly governed firms, such as for example medians or terciles, and found the results to remain qualitatively similar.

payout, the positive effect of payout on firm value for badly governed firms disappears. We interpret this as evidence that the positive effect of paying out liquid assets can only be achieved if the firm credibly signals its intention to continue to pay out cash by means of increasing dividend payments as compared to doing stock repurchase programs which usually do not convey a credible signal for future payouts (e.g., Jagannathan et al., 2000).

For brevity's sake, we present the results in this sub-section only for the two first corporate governance indices, CGIALL1 and CGIALL2. However, all results continue to hold if we include the other six governance measures employed in the study.

4. Conclusions

In this paper, we provide new and complementing international evidence on the interrelation between cash holdings, corporate governance, and firm value. We present three new main findings. First, firms with poor firm-level governance hold significantly more cash than firms with better firm-level governance. This result is in line with Jensen's (1986) free cash flow hypothesis. Second, we document a positive effect of cash holdings on firm value and show that this beneficial effect of cash holdings is not evenly distributed across all firms. Specifically, a firm needs to have comparatively good firm-level corporate governance to be able to benefit from increased cash holdings. If a firm has weak firm-level governance, increased cash holdings might be exploited by management and invested in negative-NPV projects. Third, we show that a payout of cash by means of dividend payments reduces the possibility for managers to waste cash for negative-NPV projects and hence also positively affects the valuation effect of cash holdings. Moreover, we show that poorly governed firms can still profit from cash holdings if they maintain relatively high dividend payout ratios. For all three of our main findings, we find the impact of country-level governance to be limited, i.e., the results do not substantially change if we additionally include

country-level governance into our analyses. This indicates that, at least for our sample and for our governance data, firm-level governance dominates the effects of country-level governance.

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Table 1: List of corporate governance attributes and the percentage of firms meeting the requirements for these attributes

Individual governance attribute	% of firms meeting attributes
<i>Board Accountability</i>	
1. Board members are subject to annual election by all shareholders	24.9%
2. Non-executive board members have a formal session without executives once a year	57.0%
3. Board performance is periodically evaluated	76.4%
4. Company discloses a code of ethics for senior executives	51.8%
5. Company discloses its corporate governance policies or guidelines	62.2%
6. Board or a committee is responsible for CEO succession planning	87.4%
7. Company has not failed to adopt the recommendations of a shareholder proposal	99.1%
8. All executive board members own shares after excluding options held	70.0%
9. All non-executive board members own shares after excluding options held	35.2%
10. Company has a separated chairman and CEO	83.7%
11. All members attended at least 75% of the board meetings	80.0%
12. Company has a designated "lead" or senior non-executive board member	26.7%
13. There have been no related-party transactions in the past three years	50.0%
14. The governance/nomination committee is composed of independent board members	21.4%
15. No former CEO of the company serves on the board	74.6%
16. Nr. of shares held by officers and directors has not decreased by 10% or more	82.7%
17. Nr. of shares held by officers and directors has increased by 10% or more	23.5%
18. Governance/nomination committee has a written charter or terms of reference	46.4%
19. Board size is greater than five but less than 16	84.6%
20. Board is controlled by more than 50% of independent outside directors	40.3%
<i>Financial Disclosure and Internal Control</i>	
21. Company has not had a material earnings restatement in the past three years	99.0%
22. Audit committee has a written charter or terms of reference	61.7%
23. Company has not received a qualified audit opinion within the last two fiscal years	99.7%
24. Company is not currently under investigation for accounting irregularities	99.2%
25. Audit committee is wholly composed of independent board members	42.9%
26. Someone other than senior management with sole authority to hire outside auditor	89.4%
27. Audit committee with sole authority to approve non-audit services from outside auditor	46.4%
28. Company did not pay its auditor less for audit related services than for other services	89.8%
<i>Shareholder Rights</i>	
29. Vote results for the last shareholder meeting are disclosed within 14 calendar days	78.5%
30. All common or ordinary equity shares have one-share, one-vote, with no restrictions	71.1%
31. The company provides confidential voting with no or with reasonable exceptions	44.1%
32. Shareholders have a right to convene an EGM with 10% or less of the shares requesting one	90.4%
33. Shareowners have a right to act in concert through written communication	10.8%
34. Voting rights are not capped at a certain percentage	96.8%
<i>Remuneration</i>	
35. Non-executive board members paid in cash and some form of stock-linked compensation	17.3%
36. Company discloses performance targets for the next fiscal year	23.2%
37. Non-executive board members are paid entirely in some form of stock-linked compensation	0.6%
38. CEO without an employment agreement that provides for guaranteed bonus payments	98.8%
39. CEO/Managing Director does not sit on the remuneration committee	95.3%
40. Remuneration committee is wholly composed of independent board members	32.7%
41. No repricing of outstanding executive stock options and no option exchange program	99.2%
42. Expensing of employee stock option grants	64.2%
43. Remuneration committee has a written charter or terms of reference	51.9%
44. Potential Dilution from Stock Options Outstanding is below 20%	59.9%
45. Potential Dilution from Stock Options Outstanding + not yet granted is below 20%	45.6%

<i>Market for Control</i>	
46. Company has not adopted a shareholder rights plan ("poison pill")	95.2%
47. Company does not have a staggered ("classified") board	51.1%
48. Company cannot issue blank check preferred stock in the event of a hostile tender offer	92.3%
49. Company's shareholder rights plan ("poison pill") has been ratified by a shareholder vote	3.2%
50. Fair price provision in place or price protection under applicable law	79.8%
51. Shareholder rights plan includes a TIDE provision or a three-year sunset provision	2.1%
52. Company does not require a supermajority vote to approve a merger	29.0%
53. No single shareholder or shareholder group with majority of voting power	78.9%
54. Company allows cumulative voting in the election of directors	9.5%
<i>Corporate Behavior</i>	
55. The company has a policy addressing workplace safety	84.2%
56. Company does not have pending criminal litigation against it	96.6%
57. No allegation that the company used sweat shops within the last three years	99.8%
58. Company discloses its environmental performance	53.3%
59. Company discloses its workplace safety record	36.9%
60. No regulatory investigation for a material issue other than for accounting irregularities	94.0%
61. Company discloses its policy regarding corporate level political donations	29.4%
62. Company has not been charged with workplace safety violations within the last two years	99.7%
63. It has not been alleged by a responsible party that the company used child labor	99.9%
64. Does the company disclose its environmental policy	73.1%

The table reports the 64 individual governance attributes provided by Governance Metrics International grouped by the six sub-categories: Board Accountability, Financial Disclosure and Internal Control, Shareholder Rights, Remuneration, Market for Control, and Corporate Behavior. For each governance attribute, we report the percentage of firms in the sample that meet the respective criteria associated with this attribute. The sample consists of 1,855 observations.

Table 2: Summary statistics by country

Country	# Firms	CASH	Q	LNTA	LEV	CAPEX	CF	NWC	SALESGR	DIV	PAYOUT
Argentina	3	0.10	1.53	8.21	0.49	0.10	0.19	-0.06	0.18	0.33	0.01
Australia	86	0.12	2.05	8.40	0.54	0.06	0.08	-0.01	0.28	0.98	0.04
Austria	13	0.19	1.68	8.59	0.55	0.08	0.14	-0.05	0.21	0.69	0.02
Belgium	20	0.09	1.59	8.65	0.51	0.06	0.10	0.02	0.12	0.95	0.04
Brazil	38	0.23	2.05	8.78	0.56	0.08	0.15	-0.06	0.38	0.97	0.04
Canada	104	0.12	1.95	8.43	0.50	0.09	0.10	-0.01	0.30	0.72	0.03
Chile	13	0.05	1.87	8.56	0.48	0.10	0.10	0.03	0.34	0.92	0.04
China	31	0.19	2.31	8.93	0.49	0.10	0.12	-0.11	0.39	0.90	0.02
Colombia	2	0.03	1.34	8.31	0.27	0.02	0.06	0.01	0.27	1.00	0.01
Denmark	17	0.10	2.83	8.02	0.59	0.06	0.15	0.03	0.28	0.82	0.03
Egypt	3	0.07	2.17	8.87	0.59	0.15	0.13	-0.01	0.09	1.00	0.07
Finland	23	0.08	1.91	8.47	0.55	0.05	0.07	0.09	0.19	1.00	0.06
France	90	0.14	1.64	9.43	0.62	0.05	0.08	-0.07	0.19	0.93	0.02
Germany	83	0.15	1.85	8.87	0.61	0.06	0.09	0.02	0.20	0.85	0.03
Greece	16	0.25	2.28	8.19	0.57	0.05	0.12	-0.07	0.32	0.88	0.05
Hong Kong	58	0.23	2.10	8.62	0.38	0.05	0.09	-0.03	0.16	0.97	0.05
Hungary	2	0.08	1.53	9.16	0.55	0.08	0.14	-0.02	0.05	1.00	0.08
India	33	0.19	3.16	8.03	0.47	0.09	0.17	0.10	0.40	0.97	0.04
Indonesia	7	0.13	3.37	8.02	0.52	0.09	0.17	-0.07	0.16	1.00	0.07
Ireland	13	0.28	2.53	7.72	0.64	0.05	0.11	-0.03	0.25	0.69	0.02
Israel	7	0.19	2.26	8.43	0.49	0.04	0.13	0.02	0.28	0.71	0.05
Italy	30	0.09	1.46	9.37	0.64	0.05	0.09	-0.04	0.23	0.87	0.02
Japan	399	0.18	1.50	8.65	0.53	0.05	0.08	0.02	0.11	0.97	0.01
Malaysia	10	0.22	2.27	8.51	0.46	0.06	0.11	-0.03	0.24	1.00	0.05
Mexico	18	0.15	1.90	8.73	0.47	0.05	0.14	0.09	0.13	0.78	0.04
Morocco	1	0.11	3.97	8.48	0.50	0.15	0.11	-0.21	0.32	1.00	0.02
Netherlands	28	0.17	1.83	8.88	0.55	0.05	0.11	-0.02	0.19	0.86	0.03
New Zealand	11	0.04	2.07	7.16	0.46	0.05	0.08	0.03	0.33	0.91	0.05
Norway	21	0.16	2.15	8.30	0.56	0.09	0.14	-0.03	0.30	0.67	0.04
Pakistan	1	0.21	3.99	7.72	0.22	0.12	0.12	0.35	0.04	1.00	0.03
Peru	1	0.26	3.11	7.52	0.14	0.03	0.19	0.01	0.39	1.00	0.04
Philippines	3	0.21	2.56	8.22	0.43	0.06	0.15	-0.10	0.26	1.00	0.05
Poland	6	0.11	1.88	8.69	0.40	0.09	0.15	0.00	0.34	0.83	0.06
Portugal	7	0.08	1.53	9.13	0.72	0.10	0.10	-0.13	0.23	1.00	0.03
Russia	15	0.14	2.41	9.59	0.32	0.10	0.17	0.01	0.25	0.87	0.02
Singapore	51	0.17	1.82	8.02	0.48	0.05	0.10	-0.02	0.26	0.90	0.04
South Africa	31	0.17	2.41	8.01	0.56	0.06	0.13	-0.02	0.26	0.94	0.06
South Korea	61	0.30	1.62	8.83	0.54	0.06	0.13	-0.08	0.14	0.90	0.01
Spain	33	0.12	2.11	9.35	0.65	0.05	0.11	-0.05	0.30	0.91	0.03
Sweden	46	0.11	1.87	8.44	0.58	0.04	0.10	0.04	0.18	0.86	0.04
Switzerland	38	0.27	2.39	8.53	0.48	0.04	0.12	0.05	0.29	0.89	0.03
Taiwan	52	0.31	1.75	8.25	0.42	0.07	0.11	-0.01	0.17	0.92	0.05
Thailand	5	0.09	2.18	8.83	0.44	0.09	0.11	0.01	0.21	1.00	0.07
Turkey	8	0.28	1.62	9.22	0.51	0.06	0.16	-0.13	0.32	0.75	0.02
UK	316	0.16	1.92	7.90	0.56	0.05	0.08	-0.05	0.16	0.91	0.03
Venezuela	1	0.12	0.82	8.23	0.52	0.15	0.18	-0.20	0.91	1.00	0.01
Overall Mean	40	0.17	1.86	8.50	0.53	0.06	0.10	-0.01	0.21	0.91	0.03

This table reports mean values for a cross-section of 1,855 observations for which data are available from Governance Metrics International (GMI) and Worldscope. The sample size is 1,655 for NWC and SALESGR and 1,848 for PAYOUT. CASH is the ratio of cash and equivalents to net assets. Net assets are total assets minus cash and short-term investments. Q is the market value of equity plus total assets less book value of equity, divided by total assets. LNTA is the log of total assets. LEV is total liabilities divided by total assets. CAPEX is the ratio of capital expenditures to total assets. CF is the ratio of cash flows to net assets, where cash flows are operating income plus depreciation and amortization minus interest minus taxes minus dividends. NWC is the ratio of net working capital to net assets, where net working capital is current assets minus current liabilities minus cash and short-term investments. SALESGR is a firm's 1-year sales growth. DIV is the percentage of firms in a country that paid dividends. PAYOUT is the ratio of total dividend payments to total assets.

Table 3: Cash holdings and firm-level corporate governance

Dependent Variable: CASH								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
CONSTANT	0.273 (0.381)	0.242 (0.437)	0.009 (0.975)	0.040 (0.896)	0.173 (0.561)	0.148 (0.620)	0.063 (0.828)	0.034 (0.909)
CGIALL1	-0.999 *** (0.000)							
CGICORE1		-0.889 *** (0.000)						
CGICL1			-0.464 *** (0.006)					
CGIRED1				-0.508 *** (0.003)				
CGIALL2					-1.019 *** (0.000)			
CGICORE2						-0.909 *** (0.000)		
CGICL2							-0.592 *** (0.000)	
CGIRED2								-0.556 *** (0.001)
CGOV	0.019 (0.481)	0.017 (0.524)	0.002 (0.955)	0.010 (0.720)	0.032 (0.241)	0.030 (0.276)	0.004 (0.880)	0.016 (0.555)
LNTA	-0.078 *** (0.000)	-0.083 *** (0.000)	-0.083 *** (0.000)	-0.086 *** (0.000)	-0.078 *** (0.000)	-0.083 *** (0.000)	-0.084 *** (0.000)	-0.087 *** (0.000)
LEVERAGE	-1.970 *** (0.000)	-1.987 *** (0.000)	-2.025 *** (0.000)	-2.004 *** (0.000)	-1.964 *** (0.000)	-1.982 *** (0.000)	-2.000 *** (0.000)	-1.995 *** (0.000)
CAPEX	-3.855 *** (0.000)	-3.883 *** (0.000)	-3.913 *** (0.000)	-3.919 *** (0.000)	-3.877 *** (0.000)	-3.907 *** (0.000)	-3.959 *** (0.000)	-3.915 *** (0.000)
NWC	-2.435 *** (0.000)	-2.446 *** (0.000)	-2.451 *** (0.000)	-2.449 *** (0.000)	-2.429 *** (0.000)	-2.442 *** (0.000)	-2.445 *** (0.000)	-2.450 *** (0.000)
CF	3.227 *** (0.000)	3.233 *** (0.000)	3.274 *** (0.000)	3.214 *** (0.000)	3.213 *** (0.000)	3.214 *** (0.000)	3.287 *** (0.000)	3.212 *** (0.000)
SALESGR	-0.198 (0.121)	-0.195 (0.128)	-0.193 (0.135)	-0.200 (0.119)	-0.209 (0.101)	-0.206 (0.107)	-0.199 (0.123)	-0.199 (0.120)
DIV	-0.333 *** (0.001)	-0.338 *** (0.001)	-0.332 *** (0.001)	-0.333 *** (0.001)	-0.338 *** (0.001)	-0.343 *** (0.001)	-0.343 *** (0.001)	-0.336 *** (0.001)
Observations	1,655	1,655	1,655	1,655	1,655	1,655	1,655	1,655
R-squared	0.280	0.280	0.277	0.278	0.282	0.282	0.279	0.280

This table reports the results from cross-sectional regressions where CASH is the dependent variable. CASH is defined as the natural logarithm of cash and short-term investments divided by net assets, where net assets are defined as total assets minus cash and short-term investments. CGIALL1 is an additive governance index based on all 64 governance attributes listed in Table 1. CGICORE1 is an additive governance index based on all 64 governance attributes listed in Table 1 except for those that fall into the category “Corporate Behavior”. CIGRED1 is an additive governance index based on a sub-sample of the 64 governance attributes listed in Table 1. This sub-sample consists of attributes 8 to 15, 19 and 20 from the “Board Accountability” category, attribute 25 from the “Financial Disclosure and Internal Control” category, attribute 30 from the “Shareholder Rights” category, attributes 35 and 40 from the “Remuneration category”, and attributes 47, 52, and 53 from the “Market for Control” category. CGICL1 is an additive governance index based on those governance attributes that are also used by Chhaochharia and Laeven (2009), namely attributes 10, 20, 25, 30, 32, 33, 40, 46, 47, 52, and 54. CGIALL2, CGICORE2, CGIRED2, and CGICL2 are additive governance indices based on the same governance attributes as the first four indices (CGIALL1, CGICORE1, CIGRED1, and CGICL1) but governance attributes where GMI was not able to obtain information on are considered to be not in place. CGOV is the revised anti-director index proposed by Djankov et al. (2006). All control variables are explained in Table 2. All regressions include industry dummy variables based on the industry groupings reported in Campbell (1996). *p*-values are in parentheses below each coefficient and are robust to heteroskedasticity. *, **, and *** denotes statistical significance at the 10%, 5%, and 1% level, respectively.

Table 4: Cash holdings, firm-level corporate governance, and country-level corporate governance

Dependent Variable: CASH								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
CONSTANT	1.461 ** (0.046)	1.285 * (0.067)	0.719 (0.140)	0.696 (0.210)	0.840 (0.128)	0.736 (0.162)	0.531 (0.245)	0.541 (0.286)
CGIALL1	-3.036 *** (0.009)							
CGIALL1 x CGOV	0.477 * (0.074)							
CGICORE1		-2.780 ** (0.015)						
CGICORE1 x CGOV		0.442 * (0.090)						
CGICL1			-1.904 ** (0.017)					
CGICL1 x CGOV			0.341 * (0.065)					
CGIRED1				-1.854 ** (0.042)				
CGIRED1 x CGOV				0.312 (0.129)				
CGIALL2					-2.369 ** (0.018)			
CGIALL2 x CGOV					0.318 (0.165)			
CGICORE2						-2.196 ** (0.025)		
CGICORE2 x CGOV						0.302 (0.179)		
CGICL2							-1.631 ** (0.042)	
CGICL2 x CGOV							0.245 (0.184)	

CGIRED2									-1.697 *
									(0.054)
CGIRED2 x CGOV									0.263
									(0.183)
CGOV	-0.267 *	-0.233	-0.167 *	-0.145	-0.131	-0.114	-0.109	-0.104	
	(0.097)	(0.120)	(0.073)	(0.168)	(0.266)	(0.295)	(0.205)	(0.267)	
LNTA	-0.074 ***	-0.079 ***	-0.080 ***	-0.083 ***	-0.074 ***	-0.079 ***	-0.081 ***	-0.085 ***	
	(0.001)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	
LEVERAGE	-1.990 ***	-2.006 ***	-2.046 ***	-2.027 ***	-1.979 ***	-1.998 ***	-2.011 ***	-2.016 ***	
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	
CAPEX	-3.845 ***	-3.866 ***	-3.897 ***	-3.914 ***	-3.863 ***	-3.889 ***	-3.949 ***	-3.893 ***	
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	
NWC	-2.425 ***	-2.440 ***	-2.437 ***	-2.442 ***	-2.419 ***	-2.434 ***	-2.430 ***	-2.447 ***	
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	
CF	3.221 ***	3.231 ***	3.268 ***	3.202 ***	3.208 ***	3.210 ***	3.284 ***	3.196 ***	
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	
SALESGR	-0.204	-0.198	-0.203	-0.199	-0.214 *	-0.209	-0.204	-0.198	
	(0.112)	(0.121)	(0.118)	(0.121)	(0.094)	(0.102)	(0.113)	(0.122)	
DIV	-0.339 ***	-0.345 ***	-0.340 ***	-0.337 ***	-0.344 ***	-0.349 ***	-0.349 ***	-0.341 ***	
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	
Observations	1,655	1,655	1,655	1,655	1,655	1,655	1,655	1,655	
R-squared	0.282	0.281	0.278	0.279	0.283	0.282	0.280	0.280	

This table reports the results from cross-sectional regressions where CASH is the dependent variable. CASH is defined as the natural logarithm of cash and short-term investments divided by net assets, where net assets are defined as total assets minus cash and short-term investments. The remaining variables are explained in Tables 2 and 3. All regressions include industry dummy variables based on the industry groupings reported in Campbell (1996). p -values are in parentheses below each coefficient and are robust to heteroskedasticity. *, **, and *** denotes statistical significance at the 10%, 5%, and 1% level, respectively.

Table 5: Tobin's Q, firm-level corporate governance, and cash holdings

Dependent Variable: Tobin's Q										
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
CONSTANT	3.674 *** (0.000)	3.913 *** (0.000)	3.674 *** (0.000)	3.749 *** (0.000)	3.989 *** (0.000)	3.918 *** (0.000)	3.822 *** (0.000)	4.027 *** (0.000)		
CASH	0.188 *** (0.000)	0.187 *** (0.000)	0.187 *** (0.000)	0.187 *** (0.000)	0.184 *** (0.000)	0.186 *** (0.000)	0.188 *** (0.000)	0.184 *** (0.000)		
CGIALL1	1.043 *** (0.000)									
CGICORE1		0.757 *** (0.000)								
CGICL1			0.993 *** (0.000)							
CGIRED1				0.785 *** (0.000)						
CGIALL2					0.402 *** (0.003)					
CGICORE2						0.714 *** (0.000)				
CGICL2							0.718 *** (0.000)			
CGIRED2									0.380 *** (0.004)	
LNTA	-0.247 *** (0.000)	-0.248 *** (0.000)	-0.242 *** (0.000)	-0.237 *** (0.000)	-0.243 *** (0.000)	-0.244 *** (0.000)	-0.238 *** (0.000)	-0.243 *** (0.000)		
LEVERAGE	0.011 (0.938)	0.033 (0.811)	0.017 (0.903)	0.046 (0.733)	0.054 (0.694)	0.039 (0.780)	0.043 (0.755)	0.055 (0.689)		
CAPEX	3.555 *** (0.000)	3.613 *** (0.000)	3.570 *** (0.000)	3.578 *** (0.000)	3.636 *** (0.000)	3.628 *** (0.000)	3.647 *** (0.000)	3.636 *** (0.000)		
CGOV	-0.048 * (0.068)	-0.052 * (0.051)	-0.046 * (0.074)	-0.029 (0.262)	-0.035 (0.173)	-0.051 * (0.053)	-0.032 (0.213)	-0.039 (0.137)		
Observations	1,875	1,875	1,875	1,875	1,875	1,875	1,875	1,875	1,875	1,875
R-squared	0.238	0.234	0.239	0.241	0.232	0.234	0.239	0.231		

This table reports the results from cross-sectional regressions where the dependent variable is Tobin's Q computed as market value of equity plus total assets minus book value of equity, divided by total assets. The remaining variables are explained in Tables 2 and 3. All regressions include industry dummy variables based on the industry groupings reported in Campbell (1996). *p*-values are in parentheses below each coefficient and are robust to heteroskedasticity. The number of observations in this table is 1,875 as compared to 1,855 / 1,848 in the two subsequent tables that additionally include the explanatory variables DIV, CF, and/or PAYOUT. *, **, and *** denotes statistical significance at the 10%, 5%, and 1% level, respectively.

Table 6: Tobin's Q, firm-level corporate governance, cash holdings, and the interaction of cash and firm-level corporate governance

Dependent Variable: Tobin's Q								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
CONSTANT	2.641 *** (0.000)	2.581 *** (0.000)	3.019 *** (0.000)	3.143 *** (0.000)	3.088 *** (0.000)	3.042 *** (0.000)	3.071 *** (0.000)	3.246 *** (0.000)
CGIALL1	1.971 *** (0.000)							
CGIALL1 x CASH	0.432 ** (0.011)							
CGICORE1		2.064 *** (0.000)						
CGICORE1 x CASH		0.471 *** (0.002)						
CGICL1			1.436 *** (0.000)					
CGICL1 x CASH			0.312 *** (0.003)					
CGIRED1				1.157 *** (0.000)				
CGIRED1 x CASH				0.315 *** (0.001)				
CGIALL2					1.411 *** (0.005)			
CGIALL2 x CASH					0.301 * (0.059)			
CGICORE2						1.505 *** (0.001)		
CGICORE2 x CASH						0.341 ** (0.019)		
CGICL2							1.415 *** (0.000)	
CGICL2 x CASH							0.321 *** (0.002)	
CGIRED2								1.035 *** (0.001)
CGIRED2 x CASH								0.272 *** (0.004)

CASH	-0.134 (0.217)	-0.148 (0.114)	-0.022 (0.685)	-0.036 (0.504)	-0.033 (0.719)	-0.047 (0.552)	-0.021 (0.685)	-0.005 (0.916)
DIV	0.132 (0.162)	0.145 (0.122)	0.147 (0.116)	0.137 (0.139)	0.125 (0.188)	0.135 (0.153)	0.148 (0.112)	0.133 (0.152)
CF	3.683 *** (0.000)	3.682 *** (0.000)	3.583 *** (0.000)	3.692 *** (0.000)	3.721 *** (0.000)	3.728 *** (0.000)	3.629 *** (0.000)	3.712 *** (0.000)
LNTA	-0.258 *** (0.000)	-0.253 *** (0.000)	-0.250 *** (0.000)	-0.254 *** (0.000)	-0.259 *** (0.000)	-0.256 *** (0.000)	-0.251 *** (0.000)	-0.253 *** (0.000)
LEVERAGE	0.154 (0.258)	0.141 (0.299)	0.155 (0.251)	0.170 (0.209)	0.184 (0.177)	0.175 (0.199)	0.152 (0.260)	0.176 (0.193)
CAPEX	2.139 *** (0.000)	2.180 *** (0.000)	2.174 *** (0.000)	2.258 *** (0.000)	2.146 *** (0.000)	2.178 *** (0.000)	2.221 *** (0.000)	2.233 *** (0.000)
CGOV	-0.052 ** (0.046)	-0.052 ** (0.047)	-0.037 (0.146)	-0.041 (0.117)	-0.055 ** (0.038)	-0.055 ** (0.037)	-0.040 (0.122)	-0.043 * (0.097)
Observations	1,855	1,855	1,855	1,855	1,855	1,855	1,855	1,855
R-squared	0.298	0.301	0.301	0.296	0.295	0.296	0.300	0.295

This table reports the results from cross-sectional regressions where the dependent variable is Tobin's Q computed as market value of equity plus total assets minus book value of equity, divided by total assets. The remaining variables are explained in Tables 2 and 3. All regressions include industry dummy variables based on the industry groupings reported in Campbell (1996). *p*-values are in parentheses below each coefficient and are robust to heteroskedasticity. *, **, and *** denotes statistical significance at the 10%, 5%, and 1% level, respectively.

Table 7: Tobin's Q, firm-level corporate governance, and dividend payout

Dependent Variable: Tobin's Q	Full Sample Analysis				Sub-Sample Analysis			
					Lo-Gov	Hi-Gov	Lo-Gov	Hi-Gov
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
CONSTANT	1.570 *** (0.000)	1.941 *** (0.000)	1.681 *** (0.000)	2.072 *** (0.000)	2.240 *** (0.000)	2.170 *** (0.008)	2.773 *** (0.000)	2.668 *** (0.000)
CASH	-0.304 *** (0.001)	-0.189 ** (0.014)	-0.275 *** (0.003)	-0.154 ** (0.045)	0.072 * (0.085)	0.179 *** (0.000)	0.063 (0.144)	0.156 *** (0.001)
PAYOUT	9.148 *** (0.000)	9.191 *** (0.000)	9.312 *** (0.000)	9.446 *** (0.000)	14.218 *** (0.000)	12.231 ** (0.010)	14.454 *** (0.000)	13.252 *** (0.003)
CASHxPAYOUT	6.036 ** (0.015)	6.012 ** (0.016)			2.168 * (0.066)	1.608 (0.258)	2.260 * (0.053)	1.251 (0.356)
CGIALL1	2.019 *** (0.000)		1.860 *** (0.000)		1.064 (0.271)	2.346 ** (0.045)		
CGIALL2		1.588 *** (0.000)		1.387 *** (0.001)			0.191 (0.827)	1.856 * (0.059)
CGIx CASH	0.626 *** (0.000)	0.493 *** (0.000)	0.583 *** (0.000)	0.438 *** (0.001)				
CGIx CASHxPAYOUT			8.888 ** (0.036)	9.333 ** (0.046)				
CF	3.399 *** (0.000)	3.423 *** (0.000)	3.409 *** (0.000)	3.434 *** (0.000)	4.748 *** (0.000)	1.922 * (0.059)	4.402 *** (0.000)	1.761 ** (0.044)
LNTA	-0.173 *** (0.000)	-0.174 *** (0.000)	-0.173 *** (0.000)	-0.174 *** (0.000)	-0.221 *** (0.000)	-0.173 *** (0.000)	-0.227 *** (0.000)	-0.180 *** (0.000)
LEVERAGE	0.209 * (0.082)	0.226 * (0.059)	0.203 * (0.091)	0.220 * (0.066)	0.315 (0.122)	-0.254 (0.429)	0.362 * (0.075)	-0.077 (0.806)
CAPEX	2.120 *** (0.000)	2.110 *** (0.000)	2.092 *** (0.000)	2.074 *** (0.000)	1.316 (0.128)	1.639 (0.159)	1.295 (0.110)	1.741 (0.146)
CGOV	-0.021 (0.370)	-0.023 (0.345)	-0.022 (0.344)	-0.024 (0.317)	-0.026 (0.465)	-0.053 (0.433)	-0.052 (0.185)	-0.097 (0.212)
Observations	1,848	1,848	1,848	1,848	490	454	499	445
R-squared	0.449	0.447	0.448	0.446	0.511	0.375	0.522	0.410

This table reports the results from cross-sectional regressions where the dependent variable is Tobin's Q computed as market value of equity plus total assets minus book value of equity, divided by total assets. PAYOUT denotes a firm's total dividend payments scaled by its assets. The remaining variables are explained in Tables 2 and 3. Columns 5 and 7 use a sub-sample including the firms whose respective CGI score is in the bottom quartile (Lo-Gov). Columns 6 and 8 use a sub-sample including the firms whose respective CGI score is in the top quartile (Hi-Gov). All regressions include industry dummy variables based on the industry groupings reported in Campbell (1996). *p*-values are in parentheses below each coefficient and are robust to heteroskedasticity. *, **, and *** denotes statistical significance at the 10%, 5%, and 1% level, respectively.