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The Effects of Political Connections on the Level and Value of Cash Holdings: International Evidence

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ABSTRACT

In this paper, we examine the role of political connections on corporate liquidity policies and their consequences in an international setting. We find that managers of politically connected firms have a tendency to hoard more cash than their non-connected counterparts. Moreover, presence of political connections reduces the value of cash holdings. Further analysis reveals that our main findings are more pronounced for firms in emerging markets as well as for firms in countries with weak legal protection of investors and high levels of corruption. Overall, our empirical results corroborate previous findings on the agency cost explanation for corporate cash holdings.

JEL Classification: F50; F54; G15; G34

Keywords: Political connections; Cash holding; Legal protection; Corruption.

1. Introduction

Since Keynes (1936), scholars in corporate finance have emphasized the importance of corporate liquidity policies, including the issue of how a company manages its cash reserves. There are three prominent explanations for the determinants of cash holdings. The proponents of the trade-off theory contend that there is an optimal level of cash balances, which is determined by the trade-off between the benefits and the costs of holding cash. By contrast, the pecking order theory suggests that there is no optimal level of cash holdings. Instead, a firm's cash holdings are decided by its investment and financing activities. Essentially, cash is regarded as negative debt. In general, the findings in the literature with regards to U.S. firms are more consistent with the trade-off theory of cash holdings (Kim, Mauer, and Sherman, 1998; Opler, Pinkowitz, Stulz, and Williamson, 1999).

Myers and Rajan (1998) argue that cash is perhaps the most vulnerable asset that managers can expropriate from the firm. Thus, the proponents of the agency cost theory counter that entrenched managers prefer to hoard more cash to engage in activities that are damaging to minority shareholders' interests. Several recent studies have attempted to explore the relevance of the agency motive on the determinants as well as the consequences of cash holdings. Dittmar, Mahrt-Smith, and Servaes (2003) and Kalcheva and Lins (2007) find evidence supportive of the agency cost theory from international firms. However, Harford, Mansi, and Maxwell (2008) and Bates, Kahle, and Stulz (2009) show results from U.S. firms that fail to support the theory. Therefore, the debate on the agency cost explanation for cash holdings is still on-going.

Meanwhile, there are an increasing number of studies that have examined the role of political connections on firm value and other issues around the world. Faccio (2006) and Goldman, So, and Rocholl (2009) find that politically connected firms have higher firm value than their non-

connected counterparts. One of the benefits enjoyed by politically connected firms is the easier access to the external capital market through preferential bank lending. Sapienza (2004) also finds that state-owned banks in Italy charge lower interest rates to firms affiliated with the ruling party than to those without such affiliations.

However, a recent study by Chaney, Faccio, and Parsley (2011) finds that these connected firms, in general, report lower quality accounting information than their non-connected counterparts. Peng, Wei, and Yang (2011) and Qian, Pan, and Yeung (2011) further contend that managers of politically connected firms in China are more likely to expropriate minority shareholders through tunneling or self-dealing activities. In addition, Fan, Wang, and Zhang (2007) and Boubakri, Cosset, and Saffar (2008) report that post-IPO performance of newly partially privatized state-owned enterprises is poorer for politically connected firms than for non-connected firms. All these findings indicate that managers of politically connected firms may be more entrenched than their non-connected counterparts.

In this paper, we seek to link the two strands of literature by examining the role of political connections on corporate liquidity policies in an international setting. Our first objective is to test which competing theory is better in explaining the determinants of cash holdings. Politically connected firms can access external bank financing more easily with more favorable terms, which reduces the incentives of holding cash to finance future investment needs. Therefore, the trade-off theory would predict a negative association between political connections and cash holdings. Since the pecking order theory suggests that there is no optimal level of cash holdings, whether a firm is politically connected or not should not affect its liquidity policy. Thus, the pecking order theory would predict no relation between political connections and cash holdings.

By contrast, the agency cost theory of cash holdings as first proposed by Dittmar, Mahrt-Smith, and Servaes (2003) argues that entrenched managers of politically connected firms may still have an incentive to maintain large cash reserves, even though they can obtain external financing easily with preferential terms. That is, the agency motive of cash holdings conjectures that there exists a positive association between political connections and cash holdings.

Using data from 8,373 firms across 24 countries, we find that the results from the cross-sectional regressions of cash holdings on political connections are more consistent with the agency cost explanation. More specifically, we find that managers of politically connected firms display a tendency to hold more cash than their non-connected counterparts, even after controlling for other determinants of cash holdings. We subsequently conduct a series of robustness tests and show that our main finding is robust to estimation methods and model specifications. More importantly, our results are not affected by the extremely large number of observations from the U.K. and Japan. Interestingly, we further document that the positive relation between political connections and cash holdings is particularly strong for firms in East Asian countries. This finding complements those found in the existing literature that advocates the prevalence and the importance of political connections for firms in these countries.[1]

Studies in corporate finance are often plagued by the potential endogeneity problem or self-selection bias. In our context, the problem is related to our main variable of interest, namely the dummy variable indicating the presence of political connections. It is plausible that firms with large cash holdings are more likely to establish political connections. In order to mitigate this concern, we perform the Heckman (1976) two-stage procedure on a sub-sample of firms for which we can identify the dates when the connections were made. Our results reveal that the

[1] Fisman (2001), Johnson and Mitton (2003), Leuz and Oberholzer-Gee (2006), and Gul (2006) examine the importance of political connections in several accounting- and finance-related issues in countries such as Indonesia and Malaysia.

decision to establish a connection is not related to a firm's cash holdings in the first-stage regression. More importantly, the predicted value of the political connection variable is still positively and significantly related to cash holdings in the second-stage regression. Our main finding is therefore unlikely to be driven by issues related to the endogeneity problem or self-selection bias.

Recent cross-country studies have identified that country-level institutional variables are important determinants of corporate liquidity policies for international firms.[2] In this respect, we use three country-level variables to capture the extent of capital market development, legal protection of investors, and corruption. We split the whole sample into two sub-samples based on each of these three country-level institutional variables and estimate the cross-sectional regressions of cash holdings on political connections for each sub-sample. Prior studies have also documented that the practice of connected lending is more rampant in emerging markets as well as in countries with weak legal protection and high levels of corruption. We therefore posit that the positive association between political connections and cash holdings is more pronounced in these countries. Indeed, the empirical findings from the split sample regressions support our prediction.

Our second objective is to examine the joint implications of political connections and cash holdings on firm value. If investors regard political connections as an indication of increased agency costs, we can expect them to put a big discount on the cash holdings of politically connected firms. We find evidence that the presence of political connections indeed reduces the value of cash holdings. Finally, our cross-sectional analysis shows that the negative association between political connections and the value of cash holdings is more prominent for firms in

[2] See, for example, Dittmar, Mahrt-Smith, and Servaes (2003), Pinkowitz, Stulz, and Williamson (2006), and Kusnadi and Wei (2011) for recent cross-country studies on corporate liquidity policies.

emerging markets as well as for those in countries with low legal protection of investors and high levels of corruption.

Overall, our cross-country study provides several contributions to the literature on political connections and corporate liquidity policies. First, political connections provide an alternative channel of access to external financing, which is an important factor that drives a firm's cash holdings decision. Whether the managers of connected firms still have the incentive to accumulate more cash reserves, even when this alternative channel is available, is an interesting empirical question that has not been examined previously. This study is intended to fill this gap by documenting that the existence of political connections is positively and significantly associated with cash holdings.[3]

Second, we contribute to the growing literature on the value implication of cash holdings. Our findings from the valuation regression complement the existing studies that have suggested that the presence of political connections represents an important aspect of corporate governance mechanisms at both the firm and the country levels. We provide a clearer picture on the interplay between political connections, cash holdings, and firm value, and on how they are relevant for minority shareholders.

The remainder of the paper is organized as follows. Section 2 formally develops our hypotheses on the relation between political connections and cash holdings as well as the value implications of the two. Section 3 describes our sample and main variables. Section 4 presents our empirical results and discusses their implications. Section 5 concludes the paper.

2. Literature review and hypothesis development

[3] This finding is opposite to that of Hill, Fuller, Kelly, and Washam (2010) for U.S. firms. They find a negative relation between lobbying expenses (which they use as a measure of political connections) and cash holdings. In addition, the marginal value of holding cash also declines with lobbying activities.

2.1. Political connections

Several recent studies have explored the need for firms to invest in political capital. Faccio (2006) examines the extent of political connections of firms around the world. She finds that connected firms do extract benefits from their ties to politicians, leading to an increase in firm value upon the announcements of new connections being established. For example, connected firms tend to enjoy preferential debt contracts from banks and subsidies from the government, and are more likely to be bailed out when they run into financial distress (Faccio, McConnell, and Masulis, 2006). Claessens, Feijen, and Laeven (2008) study the political contributions made by Brazilian firms around the 1998 and 2002 elections. They find that contributing firms experienced increases in their bank financing, which suggests that establishing connections has a favorable effect in the form of better access to external financing. Goldman, So, and Rocholl (2009) also report a positive announcement return when a politically connected individual is elected as a board member. In addition, Fishman (2001) finds that the market value of firms in Indonesia connected to ex-President Suharto was negatively affected by the news of his declining health.

Gomez and Jomo (1997), Johnson and Mitton (2003), and Gul (2006) focus on the extent and consequences of political connections in Malaysia. They find that Malaysian firms do establish close ties to the well-known politicians and leaders of the country and that these ties have proven to be valuable to the firms. Specifically, Johnson and Mitton (2003) examine how political ties affected stock returns during the Asian financial crisis in the late 1990s. They find that politically connected firms were badly hit during the initial stage of the crisis due to the government's slow response. However, when the government initiated capital controls later, which were designed primarily to benefit those politically connected firms, the returns of these connected firms

improved on average. On the other hand, Gul (2006) confirms that cronyism is prevalent in Malaysia and auditors in Malaysia demand higher audit fees for politically connected firms as these firms are more susceptible to financial statement misreporting than their peers. Peng, Wei, and Yang (2011) and Qian, Pan, and Yeung (2011) also find that managers of politically connected firms in China are more likely than non-connected firms to engage in expropriation through tunneling or self-dealing activities.

Chen, Ding, and Kim (2010) argue that the existence of political connections has the effect of aggravating the potential information asymmetry between managers and shareholders of international firms. In turn, this leads to the lower accuracy of earnings forecasts made by analysts as it is more difficult for them to make accurate forecasts of earnings for politically connected firms. Additionally, the negative relation between political connections and the accuracy of analysts' earnings forecasts is more profound for firms in countries with high levels of corruption.

Chaney, Faccio, and Parsley (2011) further document that politically connected firms report poorer quality of accounting information than do non-connected firms. In addition, managers of these firms do not seem to face any disciplinary pressure from the external market to improve the disclosure quality of information. In fact, they contend that the prevailing result in the literature that poor disclosure quality will be penalized in terms of a higher cost of issuing debt (and equity) simply does not exist for politically connected firms.

Taken together, the findings from the above mentioned studies suggest that although connected firms may have higher firm values and easier access to external financial markets with more favorable terms, they are less transparent (Leuz and Oberholzer-Gee, 2006) and more likely to report poor quality of accounting information. Furthermore, managers of politically

connected firms are more entrenched and these firms might be suffering from more severe agency problems.

2.2. Cash holdings

2.2.1. The trade-off theory versus the pecking order theory

The seminal work of Keynes (1936) forms the fundamental theory behind a firm's decision to hold cash. In essence, the trade-off theory of cash holdings suggests that a firm's optimal cash balance is determined by trading-off the cost of holding cash with the corresponding benefit. Having sufficient internal cash serves the shareholders' interests, as it can act as a buffer to protect the firm against any cash shortfalls (the precautionary motive). This suggests that holding sufficient cash allows a firm to invest in projects with good investment potentials without having to rely on costly external financing (the transaction cost motive). Since politically connected firms can access external bank financing with preferential terms more easily, the benefit of holding cash would be reduced. As a result, the trade-off theory predicts that the relation between political connections and cash holdings should be negative.

The pecking order theory argues that there is no optimal level of cash balance. A firm will accumulate cash reserves once its cash flow from assets is greater than that needed for financing purposes (i.e., to pay interest to creditors and dividends to shareholders, etc.). Similar to its capital structure counterpart, this theory also states that a firm will use internal cash before issuing debt to finance its investment needs. It will avoid going to the equity market to raise funds due to the higher cost involved. Essentially, cash is regarded as negative debt. Therefore, the pecking order theory predicts that a firm's political connectedness should not have any effect on its cash holdings.

Opler, Pinkowitz, Stulz, and Williamson (1999) examine the determinants of corporate cash reserves for U.S. firms. Their findings are in general consistent with the trade-off theory of cash holdings. Specifically, they find that firms hold more cash in response to increases in growth opportunities, investments, R&D expenditures, and the volatility of cash flows. At the same time, large firms and firms with large amounts of net working capital hold smaller cash balances. The above discussions lead to our first hypothesis.

H1. *Under the trade-off theory (the pecking order theory), the relation between political connections and cash holdings is negative (flat).*

2.2.2. The agency cost theory

Cash is the most vulnerable asset that entrenched managers can siphon off from the firm (Myers and Rajan, 1998). Several recent studies have examined the importance of corporate governance mechanisms on the determinants of cash holdings for both U.S. and international firms. The study by Dittmar, Mahrt-Smith, and Servaes (2003) is the first to document that cash holdings are inversely related to the legal protection of investors (at the country level) for a sample of international firms. In other words, managers of firms located in countries with weaker legal protection of investors have a tendency to hold larger cash reserves. They argue that their findings are supportive of the agency cost explanation for cash holdings.[4] Kalcheva and Lins (2007) further include the role of firm-level governance mechanisms. They find that firms with substantial control rights owned by the managers (implying weaker firm-level governance) have more incentive to hoard more cash. More importantly, this positive relation between managerial

[4] Several studies have documented the perverse implications of being cash-rich. For example, managers of cash-rich firms are more likely to engage in overinvestment, to consume private benefits, or to simply retain more cash reserves (Jensen, 1986; Lang, Stulz, and Walkling, 1991; Blanchard, Lopez-de-Silanes, and Shleifer, 1994; Harford, 1999).

control rights and cash holdings is more pervasive for firms located in countries with weak legal protection of investors. The results highlight that corporate governance mechanisms (at both the firm and the country levels) play important roles in the determinants of cash holdings for international firms.

However, the negative relation between corporate governance and cash holdings documented in the above international studies does not hold for U.S. firms. In fact, Harford, Mansi, and Maxwell (2008) find that firms with stronger firm-level governance hold more cash than those with weaker governance. They attribute the findings to the fact that those firms with weaker governance are more likely to engage in acquisitions as incentives for empire building, resulting in their smaller cash balances.[5]

The findings from several studies such as those of Chen, Kim, and Ding (2010), Chaney, Faccio, and Parsley (2011), Peng, Wei, and Yang (2011), and Qian, Pan, and Yeung (2011) infer that managers of politically connected firms are likely to be entrenched. Therefore, following Dittmar, Mahrt-Smith, and Servaes (2003) and Kalcheva and Lins (2007), the agency motive of cash holdings implies that connected firms are more likely to hold larger cash reserves. In addition, the phenomenon of cronyism stemming from the existence of political connections tends to be more rampant among firms in emerging markets as well as firms located in countries with weak legal protection and high levels of corruption. If entrenchment is the motive for controlling shareholders to hoard excessive cash, the positive association between political connections and cash holdings should be stronger in these countries as well. The above discussions lead to our second hypothesis stated as follows:

H2a. *Under the agency cost theory, cash holdings are positively associated with political connections.*

[5] Bates, Kahle, and Stultz (2009) also arrive at the same conclusion.

H2b. *In addition, this positive association is more prominent for firms in emerging markets and for firms located in countries with weak legal protection and high levels of corruption.*

2.3. The value implications of cash holdings

Using market-to-book equity as a measure of firm value, Pinkowitz, Stulz, and Williamson (2006) document that country-level institutions play important roles in determining the value implications of cash holdings. They find that there exists an asymmetry in the value implications of cash holdings. More specifically, cash holdings are valued at a premium for firms in countries with strong investor protection, whereas they are valued at a discount for firms in countries with weak legal protection of investors. Dittmar and Mahrt-Smith (2007) find a similar result for U.S. firms.[6] That is, the incremental value of holding cash is positive for strongly governed firms. Their findings are consistent with those of Harford, Mansi, and Maxwell (2008), who suggest that poorly governed firms have the tendency not to hold excessive cash reserves and, instead, splurge on value-destroying projects, which bear negative consequences.

Using a sample of international firms that are cross-listed on the U.S. exchanges, Fresard and Salva (2010) find that excess cash holdings are valued at a premium for these cross-listed firms, as compared with their non-cross-listed counterparts. They attribute the valuation premium to the increase in monitoring as well as disclosure requirements that international firms will be subject to once they are cross-listed in the U.S. The extent of legal protection afforded by U.S. laws has the effect of curbing the entrenched managers' incentives to use the cash for their own private benefits.

[6] Faulkender and Wang (2006) use excess stock returns, instead of the market-to-book ratio, to examine the value of cash holdings. Their findings are generally consistent with those of Dittmar and Mahrt-Smith (2007).

The conclusion from the above empirical results suggests that if investors regard managers of politically connected firms as entrenched, then they should value the cash holdings of politically connected firms at a discount. In addition, similar to **H2b**, we also expect that the negative relation between political connections and the value of cash holdings should be stronger for firms in emerging markets as well as for firms located in countries with weak legal protection of investors and high levels of corruption, which leads to our third hypothesis stated as follows:[7]

H3a. *Under the agency cost theory, political connections reduce the value of cash holdings.*

H3b. *In addition, the negative relation between political connections and the value of cash holdings is more pronounced for firms in emerging markets and for firms located in countries with weak legal protection and high levels of corruption.*

3. Data source and variable construction

One of the main variables in our study is *CONN***,** a dummy variable representing firms that have established close ties to politicians or governments. The data on connected listed firms around the world is first obtained from Faccio (2006). The data consist of a list of 541 connected firms from 35 countries. According to Faccio (2006), a firm is classified as politically connected if, during the period 1997 through 2001, at least one of its largest shareholders (those with ownerships of at least 10% of the voting shares) or one of its top directors (CEO, president, vice-president, chairman, or secretary) is a leader of the country (king, president, prime minister, or premier), a minister, a member of parliament, or a close relative of a politician or a political party.[8]

[7] It appears that neither the trade-off theory nor the pecking order theory is able to generate a clear prediction on the relation between political connections and the value of cash holding.

[8] In our robustness tests, we further test to see whether the results are affected by whom the connections were established through, e.g. the major shareholder or top directors, etc.

Since the data on political connections were collected by Faccio (2006) during the period 1997 through 2001, we match the data on connected firms as well as unconnected firms with firm-level financial data as of year 2001 from Worldscope.[9] To be consistent with the existing literature, we exclude firms with missing firm-year observations on the financial variables, financial firms (i.e., firms with SIC codes between 6000 and 6999), small firms (i.e., firms with a book value of total assets of less than US$10 million), and countries with zero connected firms. The screening process results in a final sample of 8,373 firms from 24 countries. Among them, 227 are connected firms.[10] Table 1 reports the sample distribution. The first two columns of Table 1 present the distributions of all firms as well as connected firms for each of the countries in our final sample. The mean and standard deviation of the number of firms are 349 and 510 for all firms, and 9 and 15 for connected firms, respectively.

[Insert Table 1 here]

There is a wide range of variation in the number of connected firms across our sample countries. The U.K. has the largest number of connected firms (66), while five countries have only one connected firm (Austria, Belgium, Ireland, Israel, and Spain). We also observe that connected firms are more prevalent in East Asian countries, with a total of 113 connected firms which comprises about half of all connected firms. In addition, observations from Japan and the U.K. dominate our international sample, making up more than 40% of the all firm sample. This raises an issue of whether our empirical results are mainly driven by the U.K. and/or Japan or by

[9] We find similar results based on the test period from 1997 to 2001 or when we extend our sample to the period 2002-2006. The results are presented in the robustness tests.

[10] This figure is about half of the original list of 541 connected firms due to the screening procedure we implement. Nevertheless, the number of connections we have in this paper is more than the 114 connected firms used by Chen, Kim, and Ding (2010) and comparable to the 209 firms used by Chaney, Faccio, and Parsley (2011). In addition, we exclude the U.S. from our sample as there are only a few connected firms in the U.S. More importantly, the inclusion of the U.S. will substantially increase the total number of firm-year observations and create a sample selection bias.

countries in East Asia. We will address this issue in the robustness tests by excluding firms in the U.K. and Japan or including firms from East Asian countries only.

In addition, we also control for several country-level institutional factors which other studies have documented as relevant for cash holdings. We follow the existing literature (such as that of Fernandes and Ferreira, 2009) to classify 16 countries as developed markets and 8 countries as emerging markets. The last four columns of Table 1 present the four institutional variables employed in this study. *LEGAL* is an index of legal protection and is calculated as the average of the investor protection index (*INVPRT*) from La Porta, Lopez-de-Silanes, and Shleifer (2006) and the anti-self-dealing index (*ANTISELF*) from Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2008).[11] *LEGAL* ranges from 0.14 (Mexico and Germany) to 0.91 (Hong Kong), with an average of 0.50 and a standard deviation of 0.23. *PRIVCRED* is the private credit index from Djankov, Liesh, and Shleifer (2007). It is calculated as the credit given by deposit-taking financial institutions to the private sector (from lines 22d and 42d of the International Financial Statistics) divided by gross domestic product (*GDP*) (from line 99b of the International Financial Statistics). *PRIVCRED* ranges from 0.18 (Mexico) to 1.64 (Switzerland), with an average of 0.93 and a standard deviation of 0.39. *CORRUPT* is the corruption index from Corporate Transparency International, with a lower number indicating a higher level of corruption. *CORRUPT* ranges from -1.09 (Indonesia) to 2.54 (Finland), with an average of 1.16 and a standard deviation of 1.08. Lastly, *CONOWN* is ownership concentration from La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998). It is measured as the average percentage of common shares owned by the three largest shareholders in the ten largest non-financial, privately-owned domestic firms in a given country. *CONOWN* ranges from 0.18 (Taiwan and Japan) to 0.64

[11] See La Porta, Lopez-de-Silanes, and Shleifer (2006) and Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2008) for details on the construction of these two indices.

(Mexico), with an average of 0.44 and a standard deviation of 0.14. The definitions of these country-level institutional variables are detailed in the Appendix.

We compute a firm's cash holdings (*CASH*) as cash and cash equivalents at the end of year *t* divided by total assets at the end of year *t*. We further compute other firm-level control variables which other studies have found to be important determinants of firms' cash holdings. *ASSET* is the book value of total assets in millions of U.S. dollars. *SIZE* is the natural logarithm of *ASSET* and is taken as a proxy for firm size. *VALUE* is the firm value (i.e., Tobin's *Q*) and is calculated as the ratio of the market value of the firm's equity plus the book value of liabilities to total assets. *CF* is cash flow and is calculated as earnings before extraordinary items plus depreciation and amortization divided by total assets (both at the end of year *t*). *NWC* is net working capital and is calculated as the difference between current assets and current liabilities divided by total assets. *SALESG* is sales growth and is calculated as the year-on-year percentage growth in sales. Since we will use *VALUE* as a measure of firm value, *SALESG* will be used as a proxy for investment opportunities. *LEV* is leverage and is calculated as the ratio of total debt (long-term and short-term) to total assets. *CAPX* is capital investment and is calculated as the ratio of capital expenditures (changes in fixed assets plus depreciation) to total assets. *RD* is calculated as research and development expenses divided by total assets. We also define a dummy variable, *DIVD*, that equals one for dividend-paying firms and zero otherwise. We winsorize all our control variables except *DIVD* at the 1% and 99% levels to make sure that our results are not attributed to outliers in the data. The definitions of these firm-level financial variables are detailed in the Appendix.

We report the summary statistics for the measure of firm-level political connections (*CONN*) and the financial variables in Panel A of Table 2. On average, connected firms make up 2.7% of

our sample, with a standard deviation of 16%. The mean and median of *CASH* are about 0.13 and 0.09, respectively, while the standard deviation is 0.13. The means (medians) of *CF* and *NWC* are 0.07 (0.08) and 0.004 (0.007), while the standard deviations are 0.13 and 0.19, respectively. In terms of leverage, the mean (median) of *LEV* is 0.26 (0.24), with a standard deviation of 0.20. The firms in our international sample spend an average of 5% and 1% of their assets in capital expenditures and research and development, respectively. About 69% of the firms pay dividends. The mean (median) of Tobin's *Q* (*VALUE*) is 1.25 (1.02), with a standard deviation of 0.78. Finally, the mean (median) of *ASSET* is US$1.13 billion ($175 million), which suggests that most of the firms in our sample are large and established.

[Insert Table 2 here]

In addition, we compute the mean and median of *CASH* for the politically connected and non-connected firms separately in each country and present the results in Panel B of Table 2. We find that, across all countries, the median of *CASH* is 10.4% for connected firms, which is about 2.9% higher than the median of *CASH* for non-connected firms. This provides preliminary evidence of the difference in cash holdings between connected and non-connected firms in support of the prediction of the agency cost theory. We will formally test whether connected firms do hold larger amounts of cash than non-connected firms in the regression analysis in the next section. We further observe that the median of cash holdings is higher for connected firms than for non-connected firms in 14 out of the 24 countries in our sample.

4. Empirical results

In this section, we perform the empirical tests on the relation between political connections and cash holdings, and their joint implications on firm value.

4.1. Determinants of cash holdings

Following the empirical construct by Opler, Pinkowitz, Stulz, and Williamson (1999) and Kalcheva and Lins (2007), we estimate equation (1) below to examine whether the presence of political connections is an important determinant of the level of cash holdings by pooling all firms across countries together:

$$\begin{aligned} Log(CASH_i) = {} & a_0 + \alpha_1 CONN_i + \beta_1 CF_i + \beta_2 NWC_i + \beta_3 SALESG_i + \beta_4 SIZE_i \\ & + \beta_5 LEV_i + \beta_6 CAPX_i + \beta_7 RD_i + \beta_8 DIVD_i \\ & + \sum c_j Industry_i^j + \sum d_k Country_i^k + u_i, \end{aligned} \tag{1}$$

where the dependent variable is the natural logarithm of cash holdings (*Log*(*CASH*)), u_i is an error term, and all other variables are as defined earlier.

We first employ the generalized least squares (GLS) method to estimate equation (1). We also include industry dummies (c_j) to control for the industry effect. The industry classification follows that of Fama and French (1997). The reported *p*-values in all tables are based on White's heteroskedasticity-corrected standard errors. Our coefficient of interest is α_1, which is the coefficient on *CONN*. The value of α_1 is predicted to be negative under the trade-off theory, zero under the pecking order theory, and positive under the agency cost theory.

We define *CASH* in two different ways to see whether our results are sensitive to the definition of cash holdings. The first one ($CASH_1$) is cash plus cash equivalents divided by total assets. The second one ($CASH_2$) is cash plus cash equivalents divided by net assets, where net assets is calculated as total assets minus cash and cash equivalents. Model (1) of Table 3 reports the estimation results from *Log*($CASH_1$) based on the country fixed effects model. We find that α_1

(0.165) is positive and statistically significant at the 5% level.[12] The result is inconsistent with the prediction of either the trade-off theory or the pecking order theory (**H1**). However, it is consistent with the prediction of the agency cost theory (**H2a**) that entrenched managers of connected firms still have the incentive to hoard more cash, even though they possess greater abilities to obtain the external financing needed to fund future investment projects. Our finding is not only statistically significant, but also economically significant. Holding other variables constant, we can see that, on average, politically connected firms hold 18% more cash than non-connected firms.

[Insert Table 3 here]

Dittmar, Mahrt-Smith, and Servaes (2003) find that country-level institutional variables are also important determinants of cash holdings for their sample of international firms. We therefore also include *LEGAL*, *PRIVCRED*, and *CONOWN* as additional control variables in our cash holdings regression. Since these country-level institutional variables are the same for all firms in a country, we estimate equation (2) below using the country random effects GLS model:

$$\begin{aligned} Log\,(CASH_i) = {} & a_0 + \alpha_1 CONN_i + \beta_1 CF_i + \beta_2 NWC_i + \beta_3 SALESG_i + \beta_4 SIZE_i \\ & + \beta_5 LEV_i + \beta_6 CAPX_i + \beta_7 RD_i + \beta_8 DIVD_i + \delta_1 LEGAL_k + \delta_2 PRIVCRED_k \\ & + \delta_3 CONOWN_k + \sum c_j Industry_i^j + \sum d_k Country_i^k + u_i, \end{aligned} \tag{2}$$

where all variables are as defined previously. *LEGAL*, *PRIVCRED*, and *CONOWN* are used to control for the effects of investor protection, access to external financing, and ownership concentration on cash holdings, respectively.

The estimation results from $Log(CASH_1)$ are reported in Model (3) of Table 3. We detect that the magnitude of the coefficient on *CONN*, α_1, has increased from 0.165 in Model (1) to 0.185 and it remains statistically significant with a *p*-value of 0.03. Likewise, the economic

[12] We obtain a similar result if we use ordinary least squares (OLS) to estimate equation (1).

significance of the result is substantial. On average, politically connected firms hold 20% more cash than their non-connected counterparts. Therefore, our main finding on the positive association between political connections and cash holdings remain intact even after controlling for country-level institutional variables.

We also re-estimate equations (1) and (2) by replacing our dependent variable with $Log(CASH_2)$. The results are reported in Models (2) and (4) of Table 3, respectively. The coefficients on *CONN* are still positive and the magnitudes are slightly larger than those reported in Models (1) and (3), respectively, although the significance level is slightly reduced from 5% in Model (1) to 6% in Model (2).[13] Overall, our main finding on the positive relation between political connections and cash holdings supports the prediction of the agency cost theory (**H2a**) but is inconsistent with that of the trade-off theory or the pecking order theory (**H1**).

Unlike Dittmar, Mahrt-Smith, and Servaes (2003) who document a significantly negative relation between country-level shareholder protection (as proxied by the *ANTIDIR* index from La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998)) and international firms' cash holdings, we find that the coefficient on *LEGAL* is negative but statistically insignificant at the conventional levels. Likewise, ownership concentration (*CONOWN*) is also not related to cash holdings. On the other hand, the coefficient on *PRIVCRED* is positive and marginally significant in Model (4) (coeff. = 0.446; *p*-value = 0.06). These findings corroborate those of Kalcheva and Lins (2007), who attribute the lack of significance of the country-level investor protection variables to the differences in sample size as well as the source of data.[14]

[13] In our unreported tests, we use another alternative definition of cash holdings that has also been used in other studies: the ratio of cash and cash equivalents to total sales. The results are qualitatively and quantitatively similar and are available upon request.

[14] Dittmar, Mahrt-Smith, and Servaes (2003) collected their sample from Global Vantage, whereas both we and Kalcheva and Lins (2007) collected data from Worldscope.

For the other firm-level determinants of cash holdings, we find that small firms, and firms with higher cash flow, more investment opportunities (as proxied by *SALESG*), and higher investment in research and development have a tendency to hold more cash. Meanwhile, firms with larger net working capital, higher leverage, and more capital expenditures hold less cash. In general, the signs of the coefficients (with the exception of *DIVD*) are largely consistent with the earlier findings by Dittmar, Mahrt-Smith, and Servaes (2003) and Kalcheva and Lins (2007).

4.2. Robustness tests

In this sub-section, we perform a series of sensitivity analysis to ensure that our results are robust to alternative specifications or samples. First, as shown in Table 1, the number of firms in our sample countries varies greatly, from less than 50 in Ireland and Israel to nearly 2,500 in Japan. We re-estimate equation (1) using the weighted least squares (WLS) method, where the weight is the inverse of the number of firms in each country. The result is displayed in Model (1) of Table 4. The result reveals that our main finding of a positive association between political connections and cash holdings (coeff. = 0.216; *p*-value = 0.04) remains unchanged using the WLS estimation method. The coefficients on the other financial variables are in general similar to those reported in Table 3, with the exception of *SIZE* and *DIVD* which are now positively and significantly associated with cash holdings.

[Insert Table 4 here]

Our results may be driven by the potential endogeneity between our dependent variable (cash holdings) and independent variable (political connections). We attempt to partially address this concern by using a sample of 77 firms for which we can identify the dates when the connections were established and perform a Heckman two-step test. Essentially, the dependent variable in the

first step of the regression is the probability that a firm is politically connected (which equals 1 in the year when the firm established political connections and 0 otherwise). The independent variables are instruments which prior studies have found to be significant in influencing a firm's decision to establish political connections, such as cash flow, leverage, market-to-book equity, sales growth, the *LEGAL* and *CORRUPT* indexes, and whether a firm's headquarter is located in the capital city of the country. We find that cash holdings have no significant association with the likelihood of establishing political connections. Subsequently, we use the predicted value of the political connections variable from the first step of the regression as an independent variable in the second step of the regression on cash holdings. The unreported results show that the coefficient on the predicted value of political connections continues to be positive and statistically significant (p-value < 0.01).

Next, we include lagged *Log*(*CASH*), denoted as *LCASH*, in equation (1). The result is reported in Model (2) of Table 4. While *LCASH* is itself positively and highly significantly associated with cash holdings, its inclusion in equation (1) does not affect the main result in terms of the sign or the statistical significance level of the coefficient on *CONN*.

We further examine whether our main finding on the association between political connections and cash holdings is driven by who the connections were established through. In particular, we construct five additional dummy variables: (i) *CONN_OWN* which equals 1 if the connection was established through one of the largest shareholders and 0 otherwise, and (ii) *CONN_DIR* which equals 1 if the connection was established through the top director and 0 otherwise.[15] Likewise, *CONN_LEADER*, *CONN_MP*, and *CONN_CLOSE* are used to represent companies in which at least one of the largest shareholders or top directors of the company is a

[15] There are 93 and 142 firms who established their connections through the owner and the director of the firm, respectively, representing 1.1% and 1.7% of all firms in our sample.

leader of the country, a member of parliament, or a close relative or friend of at least one top politician, respectively.[16] We replace *CONN* in equation (1) with *CONN_OWN* and *CONN_DIR* in one specification and with *CONN_LEADER*, *CONN_MP*, and *CONN_CLOSE* in another specification and re-estimate equation (1) using the country fixed effects GLS model. Our results (unreported) reveal that only the coefficients on *CONN_DIR* and *CONN_CLOSE* exhibit positive and significant associations with cash holdings. These findings corroborate those of Faccio (2010) who also finds that the differences between connected and non-connected firms become more pronounced when the connections are established through the owner or close relationship with a top politician.

In order to alleviate the concern that our empirical finding may be driven by observations from large countries, we remove Japan and the U.K. from our sample as these are the two countries with the largest and second largest numbers of firms. The results in Model (3) of Table 4 show that the magnitude of the coefficient on *CONN* is now 0.276 and has become significant at the 1% level.

Anecdotal evidence as well as recent empirical studies have highlighted that political connections are more prevalent for firms in East Asian countries. Consequently, we are also interested in assessing whether the positive relation between political connections and cash holdings is stronger for firms in these countries. Model (5) of Table 4 affirms our conjecture as the coefficient on *CONN* is positive and significant for the sample of East Asian countries, but not significant for the other countries (unreported).

Our analysis has so far only used observations from one year (2001). This raises a concern of whether the results will still hold in other sample periods. Therefore, we extend our sample to

[16] There are 85, 140, and 63 firms who have one of their largest shareholders or top directors as a leader of the country, a member of the parliament, or a close relative of at least one top politician, respectively. This represents 1.0%, 1.7%, and 0.8% of al firms in our sample.

cover not only the period from 1997 to 2001 (the sample period during which the connections were established) but also the period from 2002 to 2006. We further include year dummies in equation (1) and estimate the regression for the extended panel data using the country fixed effects GLS model. The results in Models (6) and (7) of Table 4 confirm that our main results are the same in both sample periods.

In summary, our robustness checks in general confirm our findings in Table 3. More specifically, the results from robustness checks are consistent with our conjecture that managers of politically connected firms are entrenched and have a tendency to hold more cash than managers of non-connected firms.

4.3. Country-level institutions, political connections, and cash holdings

After establishing that political connections are positively associated with corporate cash holdings, we further examine if this relation varies according to the strength of country-level institutions. **H2b** predicts that the positive relation between political connections and cash holdings should be more pronounced for firms in emerging markets as well as for firms in countries with weak legal protection and high levels of corruption.

Following the classification of market development introduced by Fernandes and Ferreira (2009), our sample comprises 16 developed and 8 emerging markets. For the other two institutional variables, we use the median of each variable to partition our sample into two sub-groups: (i) low legal protection if *LEGAL* is below the median and high legal protection otherwise; (ii) low corruption if *CORRUPT* is above the median and high corruption otherwise. To evaluate whether country-level attributes exert different impacts on the relation between political connections and cash holdings, for each partitioning variable, we estimate equation (1)

on the two split sub-samples of firms simultaneously. One advantage of using this estimation specification is that we can test the difference in the coefficient of *CONN* between the two sub-samples.

The results are reported in Models (1) to (6) of Table 5. We find that the positive effect of political connections on cash holdings remains significant only for the sample of firms in emerging markets in Model (2) (coeff. = 0.297; *p*-value = 0.03), firms in countries with low legal protection in Model (3) (coeff. = 0.274; *p*-value < 0.01), and firms in countries with high levels of corruption in Model (6) (coeff. = 0.284; *p*-value = 0.03). Moreover, the difference in the coefficient of *CONN* between the two sub-samples is significant for all of the country-level partitioning variables (with all *p*-values < 0.01). Therefore, our results support the prediction of **H2b** that the presence of strong institutions (measured by strong legal protection and low corruption) has a moderating effect on the incentives of politically connected firms to hoard cash, especially for firms in developed markets.

[Insert Table 5 here]

Interestingly, we observe that *LEGAL* is now negatively and significantly related to cash holdings in five out of the six specifications in Table 5, which is consistent with the finding of Dittmar, Mahrt-Smith, and Servaes (2003). Meanwhile, we find an asymmetry in the effect of *PRIVCRED* on cash holdings. In particular, *PRIVCRED* is negatively and significantly related to cash holdings for firms in developed markets and countries with low levels of corruption, but positively related to cash holdings for firms in emerging markets and countries with high levels of corruption. *CONOWN* is still not associated with cash holdings, except for the two sub-samples partitioned by *LEGAL*.

As an alternative test, we include two additional control variables: a dummy variable to represent countries in emerging markets (*EMERGING*) and an interaction term between *EMERGING* and *CONN* in the regression. More specifically, we estimate equation (3) below using the country random effects GLS model:

$$\begin{aligned} Log(CASH_i) = {} & a_0 + \alpha_1 CONN_i + \alpha_2 (CONN_i \times EMERGING_k) + \beta_1 CF_i + \beta_2 NWC_i \\ & + \beta_3 SALESG_i + \beta_4 SIZE_i + \beta_5 LEV_i + \beta_6 CAPX_i + \beta_7 RD_i + \beta_8 DIVD_i \\ & + \delta_1 LEGAL_k + \delta_2 PRIVCRED_k + \delta_3 CONOWN_k + \alpha_4 EMERGING_k \\ & + \sum c_j Industry_i^j + \sum d_k Country_i^k u_i, \end{aligned} \tag{3}$$

where all variables are as defined previously. In our unreported results for the pooled sample, the coefficient of *CONN* becomes negative but not statistically significant at any conventional levels. However, we do find that the coefficient on the interaction term displays the expected positive sign (coeff. = 0.377) and is highly significant (*p*-value < 0.01), which again confirms the prediction of **H2b**. Similarly, we replace *EMERGING* with *LEGAL* or *CORRUPT* and re-estimate equation (3) using the country random effects GLS model. The results (unreported) corroborate the findings in Table 5 as the coefficients on the interaction term are both negative and significant (both *p*-values < 0.01).

To summarize, we have established that firms with close ties to politicians have greater tendencies to hold larger cash balances than firms that have no such connections. This finding is supportive of the agency cost explanation (**H2a**) for cash holdings and the support is more prominent for firms in the emerging markets as well for those in countries with weak legal protection and high levels of corruption (**H2b**).

4.4. Political connections and the value of holding cash

Our final task is to examine the value implication of cash holdings in the presence of political connections. We estimate equation (4) below using the country fixed effects GLS model:

$$VALUE_i = a_0 + \alpha_1 CONN_i + \alpha_2 (CONN_i \times CASH_i) + \beta_1 CASH_i + \beta_2 CF_i + \beta_3 SIZE_i + \beta_4 LEV_i + \beta_5 CAPEX_i + \beta_6 DIVD_i + \sum c_j Industry_i^j + \sum d_k Country_i^k + u_i, \quad (4)$$

where *VALUE* is the firm value, measured as Tobin's *Q*. All other variables are as defined previously.

If cash holdings and political connections are deemed to be valuable to a firm, we expect both the coefficients on cash holdings (β_1) and political connections (α_1) to be positive. The results in Model (1) of Table 6 demonstrate that the coefficient on *CONN* is positive but insignificant.[17] In addition, the coefficient on *CASH* is positive and significant with a value of 1.678, suggesting that a dollar of cash holdings contributes \$1.678 to firm value for firms without connections. More importantly, the coefficient of the interaction term, α_2, which measures the effect of political connections on the incremental (marginal) value of holding cash, is negative (coeff. = -1.101) and significant at the 10% level (*p*-value of 0.08). This suggests that the value of one dollar of cash is reduced by \$1.101 for connected firms compared to non-connected firms. In other words, one dollar of cash is worth only \$0.577 for connected firms. The result is consistent with the prediction of **H3a** that if managers are entrenched, we should expect investors to discount the cash holdings of politically connected firms significantly. In terms of the economic significance, holding other variables constant, the difference in firm value (*VALUE*) attributed to

[17] While the finding on the effect of *CONN* on firm value might appear inconsistent with that of Faccio (2006), it is noted that Faccio finds an increase in firm value (i.e., cumulative abnormal returns) only for the sample of firms that established new connections between 1997 and 2001. When we extend our sample to cover the same period (1997 to 2001), the coefficient on *CONN* is positive and significant at the 1% level (see Model (6) of Table 6).

cash holdings between connected and non-connected firms is computed to be about -0.146, which represents a net reduction of 66% in the value of cash holdings.[18]

[Insert Table 6 here]

As an alternative, we also test the value of excess cash holdings. We compute the excess cash holdings for each firm as follows. First, *Log*(*CASH*) is regressed against the control variables that have been found to determine corporate cash holdings.[19] We then use the estimated coefficients to predict the optimal level of cash holdings for each firm, and use the residual from the regression to measure excess cash holdings. We find that 42% of our sample firms have positive excess cash holdings. We construct a dummy variable, *EXCSHD*, which equals one for firms with positive excess cash holdings and zero otherwise. We replace *CASH* with *EXCSHD* and re-estimate equation (3) using the country fixed effects GLS model. The results (untabulated) show that while the coefficients on *CONN* and *EXCSHD* are both positive and significant, the coefficient of the interaction term, *CONN*×*EXCSHD*, is negative and significant at the 10% level (*p*-value = 0.06). In other words, the results from the valuation regression are similar whether we use the raw level of cash holdings or a dummy variable representing if a firm has positive excess cash holdings or not.

We also perform robustness tests for the valuation regression as we have done in Table 4 for the regression of cash holdings. The results are reported in Models (2) to (5) of Table 6. We continue to find a negative and significant coefficient on the interaction term (*CONN*×*CASH*) using the weighted least squares (WLS) estimation method (Model (3)) as well as for the sample of firms from East Asian countries only (Model (5)). Although the coefficient of *CONN*×*CASH*

[18] The computation is as follows. The difference in *VALUE* attributed to cash holdings between connected and non-connected firms is -1.101×0.133 = -0.146 based on the mean cash holdings of 0.133 (Table 2). The percentage difference in the value of cash holdings is -0.146/(1.678 × 0.133) = 65.6%.

[19] Our unreported results show that the effects and significances of the control variables are found to be qualitatively similar to those presented in Table 3. It is noted that *CONN* is not included in our optimal cash holdings regression.

is still negative it becomes insignificant, when we use the country random effects GLS estimation method (Model (2)) or when we exclude the observations from Japan and the U.K. (Model (4)), possibly due to the smaller sample size. In fact, the coefficient of $CONN \times CASH$ from Model (4) which excludes the firms from Japan and the U.K. is very close to that of baseline Model (1): -1.001 versus -1.1001.

We next extend our test period from a single year (2001) to multiple years (1997 to 2001 as well as 2002 to 2006). To fully utilize these multiple years of data, we adopt an alternative methodology, first proposed by Fama and French (1998), to examine the joint effects of political connections and cash holdings on firm value. The regression specification is as follows:

$$\begin{aligned} VALUE_{i,t} = {} & a_0 + \alpha_1 CASH_{i,t} + \beta_1 CONN_i + \alpha_2 (CASH_{i,t} \times CONN_i) + b_1 E_{i,t} + b_2 dE_{i,t} \\ & + b_3 dE_{i,t+1} + b_4 dNA_{i,t} + b_5 dNA_{i,t+1} + + b_6 RD_{i,t} + b_7 dRD_{i,t} + b_8 dRD_{i,t+1} + b_9 I_{i,t} \\ & + b_{10} dI_{i,t} + b_{11} dI_{i,t+1} + b_{12} D_{i,t} + b_{13} dD_{i,t} + b_{14} dD_{i,t+1} + b_{15} dVALUE_{i,t+1} \\ & + \sum c_j Industry_{i,j} + \sum c_j Industry_{i,j} + \sum d_t Year_t + u_{i,t}, \end{aligned} \tag{5}$$

where dX_t denotes the change in variable X from year t-1 to year t, scaled by total assets in year t-1; dX_{t+1} is defined similarly; E is earnings before extraordinary items plus interest, deferred tax credits, and investment tax credits; NA is net assets; I is interest expenses; and D is the common dividends paid.

The regression results are presented in Models (6) and (7) of Table 6 for the sample period 1997 through 2001 and the sample period 2002 through 2006, respectively. For the sake of brevity, we do not report the coefficients on the lag and lead changes of control variables.[20] The coefficient of the interaction term ($CONN \times CASH$) is negative and significant only for the sample period 1997 through 2001 (coeff. = -0.609; p-value = 0.02) in Model (6). In addition, the coefficient of $CASH$ in Model (6) is 1.233, which is highly significant. We interpret the marginal

[20] The complete results are available from the authors upon request.

effect of an incremental dollar held by an average firm as follows. On average, a dollar of cash holdings has a marginal value of $1.233 for non-connected firms. However, this value is reduced by $0.609 for connected firms. So a dollar of cash holdings is worth only $0.624 for connected firms. These results highlight the significant discount that investors impose on the cash holdings of politically connected firms. The coefficient of $CONN \times CASH$ is still negative although insignificant (coeff. = -0.337; *p*-value = 0.19) for the 2002-2006 period. This reduced effect may be due to the fact that while the connections were established in 1997-2001, the test period is 2002-2006.

4.5. Country-level institutions, political connections, and the value of holding cash

Finally, we examine whether the strength of country-level institutions affect the association between political connections and the value of holding cash. Following Table 5, we split all sample firms into two sub-samples (low and high) based on market development, legal protection, or the level of corruption. The results are reported in Table 7. The regression results from Table 7 corroborate the earlier findings in Table 5 that the negative implication of political connections on the value of cash holdings is valid only for the sample of firms in emerging markets (Model (2)) and in countries with low legal protection (Model (3)) and high levels of corruption (Model (6)). The results support **H3b**.

[Insert Table 7 here]

5. Conclusions

In light of the recent global liquidity crisis around the world, the importance of corporate liquidity policies and their consequences cannot be overlooked. Using an international sample of politically connected and non-connected firms, we examine the impact of political connections

on firms' decisions to hold cash balances, as well as the valuation implications of political connections and cash holdings. Our evidence reveals that managers of politically connected firms are more likely to hold larger cash balances than their non-connected counterparts. The results are robust to alternative estimation methods and sample specifications as well as considerations of endogeneity. We argue that the findings are more consistent with the agency cost explanation for cash holdings suggested by Dittmar, Mahrt-Smith, and Servaes (2003) and Kalcheva and Lins (2007) than with the trade-off theory or the pecking order theory. More crucially, the results from the valuation regressions indicate that political connections may represent an important aspect of corporate governance mechanisms. Investors regard the managers of politically connected firms as entrenched and regard their tendencies to accumulate more cash as one of the means to extract private benefits. Therefore, the presence of political connections exerts a negative impact on the value of cash holdings.

Taken as a whole, we add fresh evidence to the ongoing debate on the agency cost explanation for cash holdings by establishing that the presence of political connections is an important determinant of a firm's corporate liquidity policy. In addition, the results from the cross-sectional regressions on split sub-samples suggest that the differences in the pattern of cash holdings and in the valuation implication between connected and non-connected firms are also driven by the cross-country differences in country-level institutions. Specifically, our main findings are stronger for firms in emerging countries as well as for those in countries with weak legal protection of investors and high levels of corruption.

As a concluding note, we raise one caveat that is perhaps relevant for future research. The connection variable that represents the focus in this study may be outdated (as the connections were recorded for the period 1997 through 2001) and under represented. Some connections

might not have been recorded or might have been missed due to a lack of information. Hence, the evolution of political connections over time should be inspected as some firms may have established new connections, while others may have severed old ones. This can potentially be an interesting and rewarding avenue for future research.

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Appendix
Definitions of variables

Variable name	Description
Firm-level variables	
CONN	A connection dummy variable, which equals 1 for politically connected firms, and 0 otherwise.
ASSET	Book value of total assets (in million US dollars).
SIZE	Natural logarithm of *ASSET*, used as a proxy for firm size.
CASH	Cash balance, which is cash and cash equivalents divided by total assets.
CF	Cash flow, which is income before extraordinary items plus depreciation and amortization divided by total assets.
NWC	Net working capital, which is net working capital divided by total assets.
SALESG	Sales growth rate, which is one-year percentage change in total sales.
LEV	Leverage, which is the sum of short-term and long-term debt divided by total assets.
CAPX	Capital investment, which is capital expenditures divided by total assets.
RD	R&D, which is research and development expenses divided by total assets.
DIVD	A dividend dummy variable, which equals 1 for firms that paid dividends during the financial year, and 0 otherwise.
VALUE (*Q*)	Firm value or Tobin's *Q*, which is measured as market value of assets plus book value of liabilities divided by book value of total assets, used as a proxy for firm value.
Institutional variables	
EMERGING	An emerging market dummy variable, which equals 1 for countries in the emerging markets, and 0 otherwise.
LEGAL	The legal protection index, calculated as the average of the investor protection index (from La Porta, Lopez-de-Silanes, and Shleifer (2006)) and the anti-self-dealing index (from Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2008)).
PRIVCRED	The private credit index from Djankov, McLiesh, and Shleifer (2007), calculated as the ratio of the credit given by deposit-taking financial institutions to the private sector to *GDP*.
CORRUPT	The corruption index for the year 2001, from Corporate Transparency International.
CONOWN	Ownership concentration, measured as the average percentage of common shares owned by the largest three shareholders in the ten largest non-financial, privately-owned domestic firms in a given country, from La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998).

Table 1
Sample distribution and country-level institutional variables

This table presents the distribution of all firms (both connected and non-connected firms) and politically connected firms for each country in year 2001 and country-level institutional variables. *LEGAL* is the legal protection index, calculated as the average of the investor protection index (from La Porta, Lopez-de-Silanes, and Shleifer (2006)) and the anti-self-dealing index (from Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2008)). *PRIVCRED* is the private credit index from Djankov, McLiesh, and and Shleifer (2007), calculated as the ratio of the credit given by deposit taking financial institutions to the private sector to *GDP*. *CORRUPT* is the corruption index for year 2001, from Corporate Transparency International. *CONOWN* is ownership concentration, measured as the average percentage of common shares owned by the top three shareholders in the ten largest non-financial, privately-owned domestic firms in a given country, from La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998).

Country	All firms	Connected firms	*LEGAL*	*PRIVCRED*	*CORRUPT*	*CONOWN*
Developed markets						
Austria	62	1	0.16	1.04	1.93	0.58
Belgium	81	1	0.31	0.78	1.36	0.54
Denmark	99	3	0.41	1.23	2.36	0.45
Finland	111	2	0.47	0.58	2.54	0.37
France	526	11	0.43	0.87	1.46	0.34
Germany	475	3	0.14	1.18	1.72	0.48
Hong Kong	374	2	0.91	1.54	1.44	0.54
Ireland	31	1	0.64	1.1	1.55	0.39
Israel	22	1	0.66	0.89	1.25	0.51
Italy	162	7	0.31	0.79	0.89	0.58
Japan	2,494	22	0.46	1.07	1.38	0.18
Singapore	279	8	0.89	1.17	2.5	0.49
Spain	96	1	0.46	1.06	1.66	0.51
Sweden	161	2	0.36	0.72	2.48	0.28
Switzerland	161	3	0.29	1.64	2.22	0.41
U.K.	994	66	0.87	1.36	2.17	0.19
Emerging markets						
India	252	6	0.68	0.3	-0.21	0.4
Indonesia	178	19	0.58	0.2	-1.09	0.58
Malaysia	476	39	0.84	1.38	0.18	0.54
Mexico	72	6	0.14	0.18	-0.39	0.64
Philippines	73	2	0.52	0.41	-0.49	0.57
South Korea	569	4	0.42	0.93	0.45	0.23
Taiwan	375	5	0.56	0.99	0.72	0.18
Thailand	250	12	0.59	1.00	-0.34	0.47
TOTAL	8,373	227				
Mean	349	9	0.50	0.93	1.16	0.44
Std Dev	510	15	0.23	0.39	1.08	0.14

Table 2
Descriptive statistics

Panel A of this table presents the descriptive statistics for the measure of firm-level political connections and control variables. *CONN* is a dummy variable which equals 1 for firms with connections to the politicians and 0 otherwise. *CASH* is cash holdings, calculated as cash and cash equivalents divided by total assets. *CF* is cash flow, calculated as income before extraordinary items plus depreciation and amortization divided by total assets. *NWC* is net working capital, calculated as current assets minus current liabilities divided by total assets. *SALESG* is sales-growth, calculated as the one-year percentage change in total sales. *LEV* is leverage, calculated as total debt (short-term and long-term) divided by total assets. *CAPX* is capital investment, calculated as capital expenditures divided by total assets. *RD* is research and development, calculated as research and development expenses divided by total assets. *DIVD* is a dummy variable, which equals 1 for dividend-paying firms and 0 otherwise. *VALUE* is Tobin's *Q*, calculated as the market value of equity plus book value of liabilities, divided by total assets. *ASSET* is the book value of total assets (in million US dollars). Panel B of this table presents the distribution of means and medians of *CASH* for politically connected and non-connected firms in each country in year 2001.

Panel A: Descriptive statistics						
Variables	N	Mean	Median	Std Dev	Min	Max
CONN	8,373	0.027		0.162		
CASH	8,373	0.133	0.090	0.132	0.000	0.643
CF	8,373	0.070	0.082	0.127	-0.423	0.403
NWC	8373	0.004	0.007	0.186	-0.546	0.477
SALESG	8,373	0.123	0.051	0.403	-0.581	2.658
LEV	8,373	0.259	0.239	0.201	0.000	0.822
CAPX	8,373	0.050	0.034	0.052	0.000	0.317
RD	8,373	0.010	0.000	0.027	0.000	0.176
DIVD	8,373	0.687	1.000	0.464	0.000	1.000
VALUE (Tobin's *Q*)	8,373	1.245	1.017	0.784	0.495	5.750
ASSET	8,373	1,130	175.45	3,509	12.02	26,992

Panel B: Mean and median of *CASH*				
	Mean *CASH*		Median *CASH*	
Country	Non-Connected firms	Connected firms	Non-Connected firms	Connected firms
Austria	0.094	0.109	0.058	0.109
Belgium	0.108	0.092	0.066	0.092
Denmark	0.113	0.107	0.060	0.037
Finland	0.129	0.153	0.071	0.153
France	0.125	0.135	0.085	0.113
Germany	0.138	0.024	0.066	0.025
Hong Kong	0.185	0.320	0.150	0.320
India	0.057	0.025	0.026	0.026
Indonesia	0.106	0.100	0.067	0.066
Ireland	0.153	0.122	0.113	0.122
Israel	0.115	0.052	0.086	0.052
Italy	0.127	0.133	0.077	0.127
Japan	0.151	0.140	0.121	0.141
Malaysia	0.104	0.104	0.063	0.072
Mexico	0.059	0.061	0.040	0.026
Philippines	0.074	0.088	0.039	0.088
Singapore	0.152	0.225	0.098	0.279
South Korea	0.126	0.082	0.083	0.070
Spain	0.075	0.202	0.042	0.202
Sweden	0.152	0.049	0.100	0.049
Switzerland	0.153	0.131	0.100	0.138
Taiwan	0.126	0.055	0.095	0.050
Thailand	0.084	0.080	0.043	0.080
U.K.	0.139	0.090	0.065	0.060
Mean	0.119	0.112	0.076	0.104
Std Dev	0.033	0.066	0.029	0.075

Table 3
Political connections and cash holdings

This table presents the regression results of cash holdings (*Log*(*CASH*)) on political connections (*CONN*). In Models (1) and (3), *CASH* is defined as cash and cash equivalents divided by total assets ($CASH_1$). In Models (2) and (4), *CASH* is defined as cash and cash equivalents divided by net assets ($CASH_2$). *CONN* is a dummy variable which equals 1 for politically connected firms and 0 otherwise. All other variables are as defined in the Appendix. The *p*-value for each coefficient is reported in parentheses and is based on White's heteroskedasticity-corrected standard error. *, **, *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)
Independent variables	*Log*($CASH_1$) country FE	*Log*($CASH_2$) country FE	*Log*($CASH_1$) country RE	*Log*($CASH_2$) country RE
CONN	0.165**	0.171*	0.185**	0.195**
	(0.05)	(0.06)	(0.03)	(0.03)
CF	0.235*	0.185	0.074	-0.001
	(0.05)	(0.18)	(0.54)	(1.00)
NWC	-1.064***	-1.271***	-1.078***	-1.298***
	(0.00)	(0.00)	(0.00)	(0.00)
SALESG	0.144***	0.153***	0.190***	0.207***
	(0.00)	(0.00)	(0.00)	(0.00)
SIZE	-0.006	-0.018*	-0.018**	-0.030***
	(0.44)	(0.05)	(0.03)	(0.00)
LEV	-2.406***	-2.802***	-2.587***	-3.015***
	(0.00)	(0.00)	(0.00)	(0.00)
CAPX	-1.355***	-1.688***	-1.280***	-1.581***
	(0.00)	(0.00)	(0.00)	(0.00)
RD	4.202***	5.046***	5.729***	6.750***
	(0.00)	(0.00)	(0.00)	(0.00)
DIVD	0.043	0.034	0.001	-0.015
	(0.18)	(0.33)	(0.98)	(0.67)
LEGAL			-0.233	-0.250
			(0.57)	(0.57)
PRIVCRED			0.400	0.446*
			(0.11)	(0.09)
CONOWN			-0.482	-0.520
			(0.45)	(0.44)
# of obs.	8,373	8,373	8,373	8,373
Adj. R^2	0.294	0.304	0.179	0.197

Table 4
Robustness test results on the relation between political connections and cash holdings

This table presents the regression results of cash holdings (*Log*(*CASH*)) on political connections (*CONN*). *CASH* is defined as cash and cash equivalents divided by total assets and *CONN* is a dummy variable which equals 1 for politically connected firms and 0 otherwise. All other variables are as defined in the Appendix. Model (1) reports the results based on the weighted least squares (WLS) estimation method, where the weight is the inverse of the number of firms in each country. Model (2) also includes lagged *Log*(*CASH*), denoted as *LCASH*, in the regression. Model (3) excludes firms from Japan and the U.K. Model (4) includes firms from East Asian countries only. Model (5) covers the period 1997 through 2001, and Model (6) covers the period 2002 through 2006. The *p*-value for each coefficient is reported in parentheses and is based on White's heteroskedasticity-corrected standard error. *, **, *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Independent variables	WLS	Including *LCASH*	Excluding Japan/UK	East Asia only	1997-2001	2002-2006
CONN	0.216**	0.161**	0.276***	0.281**	0.150**	0.161***
	(0.04)	(0.03)	(0.00)	(0.02)	(0.00)	(0.00)
LCASH		5.436***				
		(0.00)				
CF	0.458**	1.106***	0.339**	1.437***	0.434***	0.390***
	(0.02)	(0.00)	(0.02)	(0.00)	(0.00)	(0.00)
NWC	-0.781***	-0.309**	-0.811***	-0.963***	-1.404***	-0.952***
	(0.00)	(0.02)	(0.00)	(0.00)	(0.00)	(0.00)
SALESG	0.208***	-0.045	0.157***	0.064	0.147***	0.069***
	(0.00)	(0.34)	(0.00)	(0.30)	(0.00)	(0.00)
SIZE	0.028*	0.063***	-0.007	-0.062***	0.019***	-0.017***
	(0.08)	(0.00)	(0.57)	(0.00)	(0.00)	(0.00)
LEV	-2.287***	-0.762***	-2.408***	-2.276***	-2.382***	-2.349***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
CAPX	-0.692*	-0.855***	-1.122***	-1.912***	-1.606***	-1.097***
	(0.10)	(0.01)	(0.00)	(0.00)	(0.10)	(0.10)
RD	4.874***	0.419	4.206***	2.380***	0.004***	0.004***
	(0.00)	(0.50)	(0.00)	(0.00)	(0.00)	(0.00)
DIVD	0.114**	0.128***	0.177***	0.140***	0.018	0.101***
	(0.04)	(0.00)	(0.00)	(0.00)	(0.31)	(0.00)
# of obs.	8,373	8,365	4,885	4,499	35,265	48,905
Adj. R^2	0.280	0.509	0.286	0.336	0.273	0.280

Table 5
Country-level institutions, political connections, and cash holdings

This table presents the regression results of cash holdings (*Log*(*CASH*)) on political connections (*CONN*). *CASH* is defined as cash and cash equivalents divided by total assets and *CONN* is a dummy variable which equals 1 for politically connected firms and 0 otherwise. All other variables are as defined in the Appendix. All firms are split into two sub-samples based on (i) market development following Fernandes and Ferreira (2009): developed markets (Model (1)) and emerging markets (Model (2)); (ii) the legal protection of investors (*LEGAL*): low legal protection countries (Model (3)) and high legal protection countries (Model (4)); and (iii) the level of corruption (*CORRUPT*): low corruption countries (Model (5)) and high corruption countries (Model (6)). The *p*-value for each coefficient is reported in parentheses and is based on White's heteroskedasticity-corrected standard error. *, **, *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Independent variables	Developed markets	Emerging markets	Low legal protection	High legal protection	Low corruption	High corruption
CONN	-0.107	0.297**	0.274***	0.032	-0.110	0.284**
	(0.34)	(0.03)	(0.00)	(0.79)	(0.34)	(0.03)
CF	-0.333**	1.857***	-0.093	0.332*	-0.363***	1.753***
	(0.01)	(0.00)	(0.52)	(0.09)	(0.01)	(0.00)
NWC	-1.722***	-0.629***	-0.989***	-1.259***	-1.728***	-0.656***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
SALESG	0.061	0.056	0.125***	0.146***	0.064	0.071
	(0.13)	(0.43)	(0.01)	(0.00)	(0.12)	(0.31)
SIZE	0.011	-0.023	-0.019**	0.073***	0.012	-0.018
	(0.25)	(0.21)	(0.03)	(0.00)	(0.25)	(0.30)
LEV	-2.576***	-1.657***	-2.072***	-3.000***	-2.575***	-1.719***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
CAPX	-2.856***	-1.476***	-1.894***	-0.965**	-2.943***	-1.431***
	(0.00)	(0.01)	(0.00)	(0.03)	(0.00)	(0.00)
RD	2.970***	5.485***	2.884***	6.782***	2.969***	5.644***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
DIVD	0.035	0.235***	0.107***	-0.059	0.043	0.208***
	(0.37)	(0.00)	(0.00)	(0.30)	(0.28)	(0.00)
LEGAL	-0.448***	-1.213***	-0.084	-1.832***	-0.443***	-1.165***
	(0.00)	(0.00)	(0.77)	(0.00)	(0.00)	(0.00)
PRIVCRED	-0.151**	0.529***	0.281***	0.608***	-0.180**	0.515***
	(0.04)	(0.00)	(0.00)	(0.00)	(0.02)	(0.00)
CONOWN	-0.134	-0.246	-1.595***	1.975***	-0.079	-0.262
	(0.20)	(0.24)	(0.00)	(0.00)	(0.50)	(0.12)
Difference in *CONN*	0.414 (0.00)		0.306 (0.00)		0.394 (0.00)	
# of obs.	6,106	2,267	5,142	3,231	5,944	2,429
Adj. R^2	0.223	0.261	0.275	0.266	0.223	0.262

Table 6. Political connections and the value of holding cash

This table presents the regression results of firm value (*VALUE*) on political connections (*CONN*). *VALUE* is Tobin's *Q* and *CONN* is a political connection dummy variable. *E* is earnings before extraordinary items plus interest, deferred tax credits, and investment tax credits, *I* is interest expense, *RD* is research and development, and *D* is the common dividends paid. All other variables are as defined in the Appendix. Model (1) reports regression results using the country fixed effects (FE) model, Model (2) the country random effects (RE) model, and Model (3) the weighted least squares (WLS) method. Model (4) excludes firms from Japan and the U.K. and Model (5) includes firms from East Asian countries only. Model (6) covers the period 1997 through 2001 and Model (7) covers the period 2002 through 2006. The *p*-value for each coefficient is reported in parentheses and is based on White's heteroskedasticity-corrected standard error. *, **, *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Independent variables	Country FE	Country RE	WLS	Exclude Japan/UK	East Asian only	1997-2001	2002-2006
CONN	0.072	0.126*	0.089	0.067	0.110	0.160***	0.084**
	(0.35)	(0.07)	(0.23)	(0.42)	(0.13)	(0.00)	(0.01)
CASH	1.678***	1.101***	1.624***	1.625***	1.340***	1.233***	0.972***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
CONN×*CASH*	-1.101*	-0.433	-1.085*	-1.001	-0.987**	-0.609**	-0.337
	(0.08)	(0.51)	(0.08)	(0.15)	(0.02)	(0.02)	(0.19)
CF	0.984***	1.199***	1.096***	1.039***	0.232		
	(0.00)	(0.00)	(0.00)	(0.00)	(0.23)		
SIZE	0.014*	0.010*	0.006	0.005	-0.028**		
	(0.08)	(0.06)	(0.47)	(0.58)	(0.02)		
LEV	-0.028	0.126**	0.041	0.034	0.548***		
	(0.72)	(0.01)	(0.61)	(0.70)	(0.00)		
CAPX	1.168***	1.380***	0.872***	0.816***	1.023***		
	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)		
DIVD	-0.103***	-0.115***	-0.139***	-0.135***	-0.015		
	(0.00)	(0.00)	(0.00)	(0.00)	(0.65)		
E						0.602***	0.492***
						(0.00)	(0.00)
I						3.823	0.561
						(0.69)	(0.94)
RD						0.008***	0.004***
						(0.00)	(0.00)
D						3.389***	3.483***
						(0.00)	(0.00)
LEGAL		0.122***					
		(0.01)					
PRIVCRED		-0.018					
		(0.61)					
CONOWN		-0.043					
		(0.43)					
# of obs.	8,373	8,373	8,373	4,885	4,499	32,222	36,710
Adj. R^2	0.101	0.164	0.147	0.145	0.136	0.357	0.313

Table 7
Country-level institutions, political connections, and the value of holding cash

This table presents the regression results of firm value (*VALUE*) on political connections (*CONN*). *VALUE* is Tobin's *Q*, calculated as the market value of equity plus book value of liabilities, divided by total assets. *CONN* is a dummy variable which equals 1 for politically connected firms and 0 otherwise. All other variables are as defined in the Appendix. All firms are split into two sub-samples based on (i) market development following Fernandes and Ferreira (2009): developed markets (Model (1)) and emerging markets (Model (2)); (ii) the legal protection of investors (*LEGAL*): low legal protection countries (Model (3)) and high legal protection countries (Model (4)); and (iii) the level of corruption (*CORRUPT*): low corruption countries (Model (5)) and high corruption countries (Model (6)). The *p*-value for each coefficient is reported in parentheses and is based on White's heteroskedasticity-corrected standard error. *, **, *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Independent variables	Developed markets	Emerging markets	Low legal protection	High legal protection	Low corruption	High corruption
CONN	0.138	0.195***	0.213***	-0.252	0.142	0.144**
	(0.17)	(0.01)	(0.00)	(0.18)	(0.17)	(0.04)
CASH	0.916***	1.741***	1.464***	0.982***	0.963***	1.553***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
CONN×*CASH*	-0.181	-1.341***	-1.504***	2.637	-0.142	-1.148***
	(0.84)	(0.00)	(0.00)	(0.17)	(0.88)	(0.01)
LEGAL	0.127**	0.819***	0.629***	0.407**	0.124**	0.300***
	(0.02)	(0.00)	(0.00)	(0.01)	(0.02)	(0.00)
PRIVCRED	-0.078	-0.315***	-0.175***	0.093	-0.046	-0.199***
	(0.18)	(0.00)	(0.00)	(0.12)	(0.44)	(0.00)
CONOWN	0.007	-0.391***	-0.866***	0.682***	-0.045	0.094
	(0.92)	(0.00)	(0.00)	(0.00)	(0.57)	(0.31)
CF	1.418***	0.703***	1.080***	1.287***	1.445***	0.603***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
SIZE	0.012*	-0.019*	-0.014	0.019***	0.012*	-0.008
	(0.06)	(0.08)	(0.20)	(0.00)	(0.06)	(0.45)
LEV	-0.020	0.426***	0.460***	-0.000	-0.006	0.367***
	(0.74)	(0.00)	(0.00)	(0.99)	(0.93)	(0.00)
CAPX	1.471***	0.879***	1.268***	0.980***	1.530***	0.883***
	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)
DIVD	-0.149***	-0.094***	-0.066**	-0.120***	-0.149***	-0.069**
	(0.00)	(0.00)	(0.02)	(0.00)	(0.00)	(0.02)
Difference in *CONN*×*CASH*	-1.160		-4.141		-1.006	
	(0.00)		(0.00)		(0.00)	
# of obs.	6,106	2,267	5,142	3,232	5,944	2,429
Adj. R^2	0.171	0.216	0.178	0.202	0.174	0.193