

*Journal of***APPLIED CORPORATE FINANCE**

A MORGAN STANLEY PUBLICATION

In This Issue: **International Corporate Governance**

<b>The Limits of Financial Globalization</b>	<b>8</b>	<i>René M. Stulz, The Ohio State University</i>
<b>Explaining Differences in the Quality of Governance Among Companies: Evidence from Emerging Markets</b>	<b>16</b>	<i>Art Durnev, McGill University, and E. Han Kim, University of Michigan</i>
<b>The Revolution in Active Investing: Creating Wealth and Better Governance</b>	<b>25</b>	<i>David Haarmeyer</i>
<b>Investment Banking: Past, Present, and Future</b>	<b>42</b>	<i>Alan D. Morrison, Oxford University, and William J. Wilhelm, Jr., University of Virginia</i>
<b>The Evolution of Shareholder Activism in the United States</b>	<b>55</b>	<i>Stuart Gillan, Texas Tech University, and Laura Starks, University of Texas at Austin</i>
<b>The State of U.S. Corporate Governance: An Interview with Charles Elson</b>	<b>74</b>	<i>Charles Elson, University of Delaware</i>
<b>Cash Holdings, Dividend Policy, and Corporate Governance: A Cross-country Analysis</b>	<b>81</b>	<i>Lee Pinkowitz and Rohan Williamson, Georgetown University, and René Stulz, The Ohio State University</i>
<b>The Ownership Structure, Governance, and Performance of French Companies</b>	<b>88</b>	<i>Péter Harbula, Deloitte</i>
<b>For Better Corporate Governance, A Shareholder Value Review</b>	<b>102</b>	<i>Bartley J. Madden</i>
<b>Microfinance—On the Road to Capital Markets</b>	<b>115</b>	<i>Ian Callaghan, Henry Gonzalez, Diane Maurice, and Christian Novak, Morgan Stanley</i>

# Cash Holdings, Dividend Policy, and Corporate Governance: A Cross-Country Analysis

by Lee Pinkowitz and Rohan Williamson, Georgetown University, and René M. Stulz, The Ohio State University\*

In most countries other than the U.S. and U.K., publicly traded companies are usually controlled by large shareholders. When corporate governance in such companies is working well, the primary focus of the controlling shareholders is increasing the wealth of all shareholders. But in the absence of an effective governance system, controlling shareholders can derive substantial “private benefits” from using corporate assets in ways that reduce the value of the stake of minority shareholders.<sup>1</sup>

The focus of this article is on liquid assets—that is, cash and marketable securities—and the particular corporate governance problem they pose. As Stewart Myers and Raghuram Rajan argued in a paper called “The Paradox of Liquidity,”<sup>2</sup> liquid assets are a double-edged sword. On the one hand, high levels of cash are often an indication of at least past success, and there is little uncertainty about the value of such assets. Moreover, for smaller, riskier companies and those with abundant investment opportunities, cash can serve as a buffer against adverse outcomes as well as a low-cost means of funding growth opportunities. But there is also a clear downside for investors in excess corporate cash: For controlling shareholders intent on expropriating minority shareholders, it’s far easier to divert cash to private uses than to make a plant disappear. And even in cases not involving direct expropriation, there is also the well-documented tendency of corporate managers in mature companies (in all countries) to retain excess cash instead of paying it out to shareholders—and then waste it on value-reducing projects, such as diversifying acquisitions or other low-return expenditures.<sup>3</sup>

Because of this private benefit option afforded them by

cash holdings, we would expect controlling shareholders to overinvest in liquid assets, especially in countries whose legal and governance systems offer less protection to minority shareholders.<sup>4</sup> Using various rankings of national governance systems and shareholder rights, a number of recent studies have shown that companies operating in countries with limited protection for minority shareholders tend to have higher ratios of cash-to-total assets than comparable companies in more protective regimes.<sup>5</sup> However, there is one problem in interpreting these findings: Since countries with weaker governance systems are also typically riskier places to operate,<sup>6</sup> companies in these countries may hold more cash simply because they need a larger buffer to protect themselves against adverse shocks. And if the higher levels of cash function mainly as a risk management device, such larger cash holdings may be justified.

In an article published recently in the *Journal of Finance*,<sup>7</sup> we presented the findings of a study that attempted to answer the following question: Does the market assign a value of at least a dollar to each additional dollar of cash holdings in companies in weaker governance regimes, or do investors effectively discount the value of that cash when setting stock prices to reflect the greater opportunities for expropriation? Using a sample of companies that spanned 35 countries over an 11-year period (1988-1998), we found that in countries deemed to have high investor protection, a dollar of liquid assets is worth roughly a dollar to minority investors. By contrast, in countries with less investor protection, a dollar of liquid assets is worth much less, in some cases as little as \$0.29. In other words, investors assume that they will not benefit fully from the liquid assets on a firm’s balance sheet when governance is poor.

\* Pinkowitz and Williamson thank the Capital Markets Research Center at Georgetown University, the Steers Faculty Research Fellowship, and the Holowesko Faculty Research Fellowship through the McDonough School of Business for financial support.

1. See, for instance Dyck, A., and L. Zingales, 2004, “Private Benefits of Control: An International Comparison,” *Journal of Finance* 59, 537-600, and T. Nenova, 2003, “The Value of Corporate Voting Rights and Control: A Cross-country Analysis,” *Journal of Financial Economics* 68, 325-351.

2. Myers, S. C., and R. G. Rajan, 1998, “The Paradox of Liquidity,” *Quarterly Journal of Economics*, 113, 733-771.

3. See Jensen, M., 1986, “Agency Costs of Free Cash Flow, Corporate Finance and Takeovers,” *American Economic Review*, Vol. 76, pp. 323-339.

4. There is now a considerable body of research showing that, in countries with limited investor protection, controlling shareholders have greater opportunity to transfer value from minority shareholders. For a review of such studies, see La Porta, R., F. Lopez-

de-Silanes, A. Shleifer, and R. Vishny, 2002, “Investor Protection and Corporate Valuation,” *Journal of Finance* 57, 1147-1170.

5. See Dittmar, A., J. Mahrt-Smith, J., and H. Servaes, 2003, “International Corporate Governance and Corporate Cash Holdings,” *Journal of Financial and Quantitative Analysis* 38, 111-133, and Kalcheva, I. and K. Lins, 2004, “International Evidence on Cash Holdings and Expected Managerial Agency Problems,” working paper, University of Utah.

6. See Acemoglu, D., S. Johnson, J. A. Robinson, and Y. Thaicharoen, 2003, “Institutional Causes, Macroeconomic Symptoms: Volatility, Crises, and Growth,” *Journal of Monetary Economics*, 50, 49-123.

7. Pinkowitz, L., R. Stulz, and R. Williamson, 2006, “Does the Contribution of Corporate Cash Holdings and Dividends to Firm Value Depend on Governance? A Cross-country Analysis,” *Journal of Finance* 61, 2725-2751.

In this sense, the private benefits available to controlling shareholders can be seen as creating a wedge between the value of a dollar inside the firm and the value of a dollar paid out in the form of dividends or stock repurchases. Since dollars paid out as dividends are thereby exempt from the possibility of expropriation, we also explored the possibility that investors assign a premium value to dividends in countries with less investor protection. Our study provides strong support for this hypothesis: In one model of firm value that is tested, a \$1 increase in a company's dividend per share ratio is associated with an increase in firm value of almost \$10 in countries with substandard minority shareholder protection (as compared to only a \$4 increase for companies in stronger governance regimes).

### I. The Value of Liquid Asset Holdings versus the Value of Dividends in Weak Governance Systems

Finance theory begins with the assumption that controlling shareholders attempt to influence companies primarily in ways designed to maximize *their own* welfare. When such shareholders own large percentages of the rights to corporate cash flows (as distinguished from voting rights), their interests are likely to be well aligned with those of the minority shareholders. And in such cases, the minority shareholders may benefit from oversight by controlling shareholders that helps ensure that management works to maximize firm value.

Nevertheless, the interests of controlling shareholders can diverge significantly from the minority holders'. Consider an extreme example in which controlling shareholders have 75% of the voting rights while owning just 10% of the claims to cash flow and dividends. In such a case, the controlling shareholders clearly have an incentive (or at least face the temptation) to increase their own welfare at the expense of the minority shareholders.

#### The First Hypothesis: Discounted Value of Cash Holdings

The extent to which a company's controlling shareholders can extract such private benefits from their position depends, in large part, on how well the interests of outside investors are protected in the firm's home country. As the controlling shareholder's ability to extract private benefits increases, the outside investors' assessment of firm value—and thus the market price of the firm's stock—should fall to reflect the probability of such expropriation. Another way of saying this is that outside investors effectively assume the worst when incorporating the anticipated wealth transfers to controlling shareholders into the price of the firm's shares. Since the expropriation of minority shareholders tends to be greater in countries with legal and

regulatory regimes that offer the fewest investor protections, company values, all else equal, tend to be lower in such countries.

In a world of perfect financial markets and no contracting costs, companies would invest in all positive net present value projects available to them and pay out to shareholders the funds they cannot invest in such projects. As already noted, funds paid out to shareholders can no longer be used by controlling shareholders to build "empires" or increase their private wealth through "tunneling" transactions. As also mentioned, controlling shareholders often prefer that their companies maintain excess cash holdings because liquid assets have a private benefit "option" attached to them that other assets do not; with liquid assets, they can immediately invest in projects that benefit them personally.

On the other hand, we would not expect controlling shareholders to convert their companies' liquid assets into private benefits to the point where the firms are always starved for cash. In fact, like most professional managers with limited ownership stakes, controlling shareholders are likely to prefer larger cash balances, all else equal, because such balances provide them with flexibility. The cash can either be siphoned out of the firm, invested in projects that provide high private benefits, or held as a buffer against shocks that buttresses the controlling shareholders' ability to remain in control. But there will also be times when controlling shareholders will take advantage of the firm's cash to extract private benefits. In particular, they may choose to do so when they feel that their control could be threatened, or simply because they want to cash out.

The bottom line of our analysis, then, is that companies with controlling shareholders in weak governance regimes will hold more than the value-maximizing level of cash, *on average*.<sup>8</sup> And to the extent such companies' cash holdings are more vulnerable to future expropriation, we would expect investors to anticipate this possibility by discounting the value of the cash. In effect, the outside investors own only part of the firm's cash; the rest is owned by the controlling shareholders in the form of future private benefits.

This brings us to the first of the two hypotheses we tested: *Cash is valued at a discount in countries with weak investor protection.*

#### The Second Hypothesis: Premium Value on Dividends

When companies sell shares to outsiders for the first time, the controlling shareholders in theory have incentives to commit their firms to pay out all excess cash in the future. If such a commitment were possible, the companies would command higher prices for their shares (and we would find no evidence to support our hypothesis).

8. As mentioned earlier, the evidence of Dittmar, Mahrt-Smith, and Servaes (2003) and Kalcheva and Lins (2004) is supportive of these predictions.

But it is not clear how companies could make a credible commitment to such a payout policy. First, the companies would have to find a way to specify the levels of cash that are considered “excess.” Second, when the legal system works poorly and the government is corrupt, controlling shareholders can simply renege on such a commitment. Third, such a commitment would drastically limit the discretion of controlling shareholders, even though such discretion can be extremely valuable at times. Fourth, countries with little investor protection typically also have a low level of financial development. And since a low level of financial development makes it expensive for companies to raise capital, any mechanical rule about how much cash a company can keep would force many firms to go to the capital markets frequently and hence incur heavy costs in accessing these markets.

Companies in countries with limited investor protection face greater investor “demand” for dividends because of the greater likelihood that corporate cash will otherwise be consumed as private benefits.<sup>9</sup> Apart from possible negative tax consequences, shareholders clearly gain when such companies pay out liquid assets that cannot be invested at a rate at least equal to what shareholders could earn on the cash outside the firm—and the possibility of expropriation, of course, makes the case for dividends even stronger. For that reason, and holding all else equal, companies that pay out a higher proportion of their earnings and cash flows should be worth more to minority shareholders. Because dividends are sticky, an additional dollar of dividends can be worth much more than a dollar to the shareholders because they expect the firm to keep paying that amount of dividends in the future. This result is in sharp contrast with the predictions of Miller and Modigliani in a world where there are no governance issues. In such a world, shareholders are not better off if the firm chooses to pay more dividends because a dollar held by the firm is the same as a dollar in the shareholders’ pockets.

Which brings us to the second hypothesis we examined in our study: *Dividends are valued more highly in countries with weaker investor protection.*

## II. Designing the Test

To investigate whether the value of liquid assets is discounted more heavily in countries with weaker investor protection and whether dividends are valued at a premium, we needed a regression model that relates a company’s value to a number of important firm characteristics, including earnings, cash holdings, and dividends. By making a slight adjustment to a valuation model developed by Eugene Fama

and Ken French in a 1998 article,<sup>10</sup> we came up with the following regression:

$$\begin{aligned}
 V_{i,t} = & \alpha + \beta_1 E_{i,t} + \beta_2 dE_{i,t} + \beta_3 dE_{i,t+1} + \beta_4 dNA_{i,t} \\
 & + \beta_5 dNA_{i,t+1} + \beta_6 RD_{i,t} + \beta_7 dRD_{i,t} + \beta_8 dRD_{i,t+1} \\
 & + \beta_9 I_{i,t} + \beta_{10} dI_{i,t} + \beta_{11} dI_{i,t+1} + \beta_{12} D_{i,t} + \beta_{13} dD_{i,t} \\
 & + \beta_{14} dD_{i,t+1} + \beta_{15} dV_{i,t+1} + \beta_{16} dL_{i,t} + \beta_{17} dL_{i,t+1} + \epsilon_{i,t} \quad (1)
 \end{aligned}$$

where  $V$  is the market value of the firm calculated at fiscal year end as the sum of the market value of equity and the book values of short-term debt and long-term debt;  $E$  is earnings before extraordinary items plus interest, deferred tax credits, and investment tax credits;  $L$  is liquid asset holdings and  $NA$  is net assets (defined as total assets minus liquid assets);  $RD$  is research and development expense;  $I$  is interest expense; and  $D$  is common dividends paid. With this model, the value of the firm depends on the level of various firms characteristics (for instance, earnings) as well as current and future changes in firm characteristics (for instance,  $dE_{i,t+1}$  denotes next year’s increase in earnings). Future changes attempt to capture investors’ expectations of future performance. All variables are divided by the firm’s assets, so that our measure of firm value is the market-to-book ratio or Tobin’s  $q$  ratio and measures how much value is created for a given amount of assets.

Having set up the model this way, our expectation was that the change in liquid asset holdings ( $L$ ) would contribute less to firm value ( $V$ ) in countries with weak governance institutions, and thus the coefficient  $\beta_{16}$  would be lower in such countries. To attempt to determine how the coefficient on changes in cash holdings varies with different degrees of investor protection, we split the sample of countries in half each year according to whether a measure of investor protection for a country is above the sample median or below. As already stated, the testable prediction of hypothesis 1 was that  $\beta_{16}$  would be lower for countries with weaker investor protection. The prediction of hypothesis 2 was that coefficient  $\beta_{12}$  would be larger for countries with weaker investor protection.

Although we estimate our regressions using company-level and country data for the period 1983 through 1998, our study reports results for the shorter period of 1988–1998. We ignore the first five years because the proportion of emerging countries covered increases sharply in the late 1980s, and so does the number of individual companies. If we had instead started in 1983, there would have been a major and abrupt change in the composition of countries with poor investor protection in the late 1980s since more emerging economies were added to the data in the late 1980s. By starting in 1988, we ensured that there was little

9. See La Porta, R., F., Lopez-De-Silanes, A. Shleifer and R. Vishny, 2000, “Agency Problems and Dividend Policies around the World,” *Journal of Finance* 55, 1-33.

10. Fama, E. F. and K. R. French, 1998, “Taxes, Financing Decisions, and Firm Value,” *Journal of Finance* 53, 819-843.

Table 1 **Worldscope Sample**

Data are from 1988-1998 for all countries except India, the Philippines, and Turkey where data begin in 1989 and Peru, where data begin in 1992. Market to Book is the sum of market of equity and book value of debt divided by the book value of assets. "Dividends" are common dividends and "Cash" is cash and marketable securities. Dividends and cash are divided by the book value of assets. Each year, the median value of each variable for each country is calculated. The reported statistic is the mean of those time-series medians.

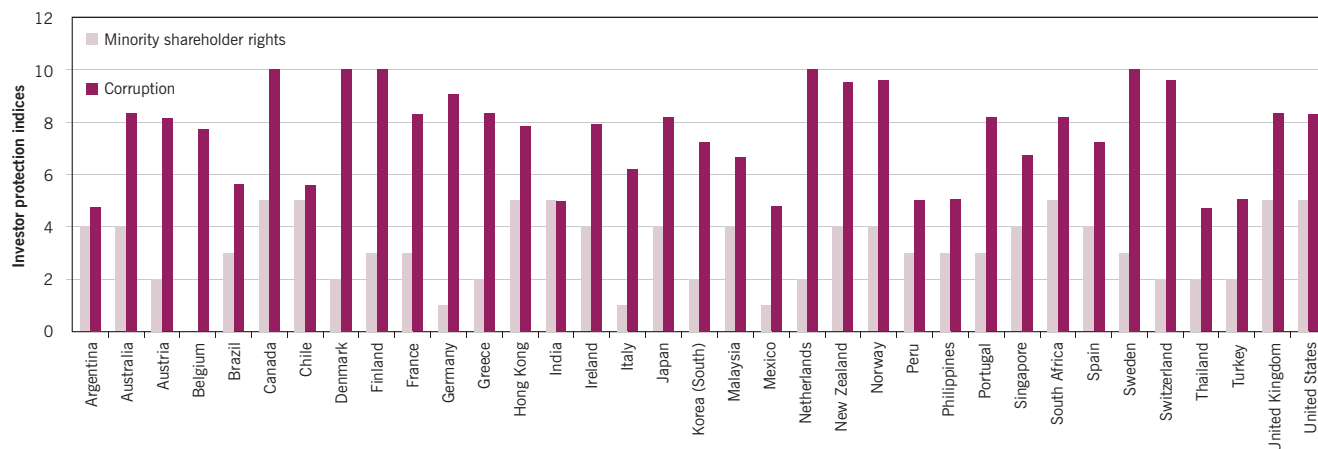
Country	Market to Book	Dividends	Cash	Mean # of Firms per Year
Argentina	0.769	0.013	0.065	14.2
Australia	1.013	0.023	0.044	137.8
Austria	0.758	0.009	0.066	34.3
Belgium	0.809	0.013	0.089	57.6
Brazil	0.586	0.006	0.047	46.1
Canada	0.967	0.007	0.026	292.8
Chile	1.125	0.045	0.046	32.7
Denmark	0.889	0.009	0.138	88.6
Finland	0.817	0.009	0.080	58.8
France	0.711	0.008	0.085	309.8
Germany	0.822	0.011	0.056	272.1
Greece	1.164	0.026	0.037	40.4
Hong Kong	0.834	0.029	0.102	100.1
India	1.301	0.014	0.025	57.3
Ireland	0.947	0.014	0.094	37
Italy	0.655	0.010	0.089	104.8
Japan	1.014	0.005	0.160	1442.7
Korea (South)	0.783	0.004	0.064	101.3
Malaysia	1.344	0.014	0.055	140.3
Mexico	0.972	0.007	0.057	33.1
Netherlands	0.813	0.014	0.048	113.6
New Zealand	0.969	0.024	0.015	25.4
Norway	0.897	0.006	0.119	64.8
Peru	1.046	0.011	0.048	10.6
Philippines	1.290	0.003	0.076	22
Portugal	0.763	0.009	0.025	25.9
Singapore	1.013	0.013	0.138	75.9
South Africa	0.893	0.025	0.056	102.6
Spain	0.808	0.014	0.039	77.8
Sweden	0.861	0.013	0.092	89.6
Switzerland	0.821	0.011	0.108	88.5
Thailand	1.174	0.021	0.026	86.5
Turkey	1.389	0.042	0.094	13.2
United Kingdom	0.997	0.024	0.062	962.4
United States	1.151	0.008	0.044	1751.2

change in the composition of the countries with poor investor rights during our entire test period. And for this reason alone, we believe that our results for the period 1988-1998 are more reliable (though the results for the longer period are consistent with these results).

**The Variables.** In Table 1, we report for our sample

companies in each of 35 countries the average value of each of our three main variables over the period 1988-1998: the market value of the firm divided by the book value of assets (the dependent variable in our regressions), as well as the two main (independent) variables of interest: cash and dividends, both also measured as percentages of book value.

Figure 1 Investor Protection Indices



(The table also provides information about the number of firms available in our sample.)<sup>11</sup> As we would expect, there is substantial variation in cash holdings and dividends across countries. Japanese companies, for instance, held roughly 16% of their assets in cash, while paying out very little in dividends. Chilean companies paid out annually in dividends roughly the same amount they continued to hold in cash, about 4.5% of total assets. In New Zealand, by contrast, companies paid out more in dividends (2.4% of assets annually) than the 1.5% of assets they continued to hold in cash.

To capture the strength of different national governance systems in our model, we use the anti-director index, an index of minority shareholder rights that was developed by Rafael La Porta, Florencio Lopez-de-Silanes, Andrei Shleifer, and Robert Vishny.<sup>12</sup> This index takes values from 0 to 6, with countries assigned a value of 6 having the best protection of minority shareholder rights. We also use an index of corruption obtained from the *International Country Risk Guide*. The index is normalized so that it takes values from 1 through 10, with 10 corresponding to the lowest level of corruption and hence the highest level of investor protection.

Figure 1 shows the values of the two indices of investor protection we used. As can be seen in the figure, the U.S., Canada, and most Western European countries have high values for the corruption index, but the European countries vary greatly in their values for the anti-director index. The countries with poor indices of corruption are generally located in Asia and South America.

### III. The Market Value of Cash Holdings

In testing our two hypotheses, we estimated the regression model presented earlier. We ran the regressions first with the corruption index from the *International Country Risk Guide* and then with the anti-director rights index.

We report in Table 2 the coefficient estimates that we are focused on and omit the other ones. As reported, when we ran our regression using the corruption index, the coefficients representing cash holdings suggested that, as expected, cash contributed significantly more to firm value in countries with better investor protection. More specifically, our findings can be interpreted as indicating that, in countries viewed as having high levels of corruption, each additional dollar of cash holdings was associated with an increase in firm value of just \$0.33. In contrast, in countries deemed to have the least corruption, the next dollar of cash appeared to be worth \$0.91.

As also reported in Table 2, the findings of the second regression model (using the minority shareholder rights index instead of the corruption index) were essentially the same: An additional dollar of cash built up over the most recent year was associated with a change in firm value of \$0.29 in countries with a low minority shareholder rights index and \$0.95 in countries with a high value of the index. But, in contrast to the regression using the corruption index, companies in countries with a high minority shareholder index tended to have higher market-to-book ratios, regardless of differences in other characteristics.

Now let's turn to our second hypothesis. If cash is

11. The number of U.S. firms drops off sharply starting in 1998 because Worldscope limited its coverage to roughly the 500 largest U.S. firms, starting in 1998.

12. See La Porta, R., F. Lopez-de-Silanes, A. Shleifer, and R. Vishny, 1998, "Law and Finance," *Journal of Political Economy* 106, 1113-1155. Their index is obtained "by adding 1 when (1) the country allows shareholders to mail their proxy vote to the firm, (2) shareholders are not required to deposit their shares prior to the general shareholders'

meeting, (3) cumulative voting or proportional representation of minorities in the board of directors is allowed, (4) an oppressed minorities mechanism is in place, (5) the minimum percentage of share capital that entitles a shareholder to call for an extraordinary shareholders' meeting is less than or equal to 10 percent (the sample median), or (6) shareholders have pre-emptive rights that can be waived only by shareholders' vote." (p. 1123).

Table 2 **Estimates of the Value of a Dollar Increase in Dividends and of a Dollar Increase in Cash Holdings**

Value Estimate of One Dollar More of	High Corruption Countries	Low Corruption Countries	Poor Shareholder Rights Countries	Good Shareholder Rights Countries
<b>Dividends</b>	6.56 (0.441)	4.03 (1.091)	9.80 (1.659)	4.07 (1.236)
<b>Cash</b>	0.33 (0.163)	0.91 (0.186)	0.29 (0.202)	0.95 (0.194)

worth less in countries with high corruption, we would expect dividend payouts in such countries to be worth more. In the regression that uses the corruption index as the measure of investor protection, we found that the coefficient on the dividend payout was 6.56 in countries with high corruption and 4.03 in countries with low corruption (the difference between the two coefficients is significant at better than the 1% level). In the regression with the anti-director index, the coefficient on the dividend payout was 9.80 for countries with a low value of the index and 4.07 in countries with a high value of the index. As noted earlier, the latter findings can be interpreted as follows: for companies in countries with less shareholder protection, a \$1 increase in the dividend-to-assets ratio tends to be associated with a roughly \$10 higher market-to-book ratio (whereas the market-to-book ratios of companies in stronger governance regimes are only about \$4 higher for each \$1 hike in the dividend rate).

The results presented in Table 2 held when we used different econometric approaches as well as when we used different measures of investor protection. In particular, we used indices of expropriation risk, rule of law, and political risk. One difficulty with our analysis stems from the highly positive correlation between some measures of investor protection and economic development (for instance, corruption tends to be lower in countries with greater economic development as can be assessed from Figure 1). We used various tests to try to disentangle a development effect from an investor protection effect and concluded that our results were explained mainly by the latter.

## Conclusion

In this article, we discuss the findings of our recently published study of how the market's assessments of the value of cash holdings and dividends varies among companies

operating in 35 countries with legal regimes affording different levels of protection to minority shareholders. Our study tests two hypotheses: The first is that minority shareholders assign a lower effective value to the cash holdings of companies in countries with weaker investor protection and greater probability of expropriation by controlling shareholders. The second hypothesis is that minority shareholders put a premium value on dividends in countries with less investor protection. We find evidence that is strongly supportive of both arguments.

What's more, our results are consistent with several strands of the finance literature. First is a growing body of studies that investigate the relation between firm value and investor protection. In particular, several studies show that the positive incentive effects of cash flow (as opposed to voting) rights are stronger in countries with weaker investor protection (conversely, the existence of a wedge between cash flow rights and control rights has a more negative impact on firm value in such countries).<sup>13</sup> Also represented in this literature are studies that show that companies that choose to "rent" governance institutions from countries with better investor protection (say, by listing in those countries), or find other means of creating effective internal governance systems, have higher values than otherwise comparable firms—and that this "good governance" premium increases as the protection afforded minority investors in the home country declines.<sup>14</sup> Our contribution to this literature is to identify a discount for liquid asset holdings in countries with poor investor protection, so that outside shareholders do not receive the full value of liquid assets owned by the firm.

Second, the findings of our study are consistent with a relatively recent literature on tunneling, an apparently widespread practice in countries with poor investor protection whereby controlling insiders expropriate outside

13. See, for instance, La Porta, R., F. Lopez-de-Silanes, A. Shleifer, and R. Vishny, 2002, "Investor Protection And Corporate Valuation," *Journal of Finance* 57, 1147-1170., Claessens, S., S. Djankov, J. P. H. Fan, and L. H. P. Lang, 2002, "Disentangling the Incentives and Entrenchment Effects of Large Shareholdings," *Journal of Finance* 57, 2741-2771, and K.V. Lins, 2003, "Equity Ownership and Firm Value in Emerging Markets," *Journal of Financial and Quantitative Analysis* 38, 185-212.

14. Doidge, C., G. A. Karolyi, and R. Stulz, 2004, "Why are Foreign Firms Listed in the U.S. Worth More?," *Journal of Financial Economics* 71, 205-238. See also Durnev, A., and E.H. Kim, 2005, "To Steal or Not to Steal: Firm Attributes, Legal Environment, and Valuation," *Journal of Finance* 60, 1461-1493, the findings of which are summarized in another article in this issue.

investors by taking actions that remove valuable assets from the firm.<sup>15</sup> Our study reinforces this literature by documenting that outside investors discount firm assets in countries with poor investor protection to reflect their expectation that they will not receive the full benefit of these assets.

Third and finally, our study provides additional evidence in support of Michael Jensen's "free cash flow" theory—the idea that the natural tendency of corporate managers in mature companies is to retain and then waste excess cash on low-return projects. As stated earlier, studies show that companies tend to hold more cash both when operating in countries with low investor protection, and when there is a larger discrepancy between a controlling shareholder's voting rights and cash flow rights.<sup>16</sup> And a more recent study of U.S. companies provides evidence that the liquid asset holdings of such companies are assigned higher values in companies with fewer anti-takeover protections.<sup>17</sup> In companies facing significant agency costs of free cash flow, cash holdings should be discounted since they are expected to be spent

partly on projects designed to increase the welfare of those who control the firm rather than to maximize the wealth of all investors. Our study documents that such discounting takes place in countries where we expect the agency costs of free cash flow to be particularly large.

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15. See, for instance, R. La Porta, F. Lopez-de-Silanes, A. Shleifer, and R. Vishny (2002).

16. A. Dittmar, J. Mahrt-Smith, and H. Servaes (2003).

17. Dittmar, A., and J. Mahrt-Smith, 2005, "Corporate Governance and the Value of Cash Holdings," forthcoming, *Journal of Financial Economics*.

**Journal of Applied Corporate Finance** (ISSN 1078-1196 [print], ISSN 1745-6622 [online]) is published quarterly, on behalf of Morgan Stanley by Blackwell Publishing, with offices at 350 Main Street, Malden, MA 02148, USA, and PO Box 1354, 9600 Garsington Road, Oxford OX4 2XG, UK. Call US: (800) 835-6770, UK: +44 1865 778315; fax US: (781) 388-8232, UK: +44 1865 471775.

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