Culture, Corporate Governance, and Dividend Policy: International Evidence

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Abstract

Using more than 112,000 firm-year observations in 33 countries, we find that two Hofstede's cultural dimensions, uncertainty avoidance and long-term orientation, remain significant in the determination of dividend policy even after controlling for governance and firm-specific factors. When uncertainty avoidance is high, only firms in countries with stronger investor protection pay more dividends as investors' desire of having a sure dividend dominates managers' desire of retaining more cash. Similarly, when a society's long-term orientation is strong, firms tend to pay less dividends. Our results suggest that cultural differences across countries offer additional power in explaining variations in dividend levels.

JEL classification: G3; G35

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I. Introduction

Over the last decades, significant research has been done on corporate dividend policy. Existing studies document that a firm's dividend policy is affected by factors such as profitability, leverage, growth, agency costs, signaling incentive, risk, and liquidity, among others.¹ Recently, Baker and Wurgler (2004a) propose a catering theory of dividends that the decision to pay dividends is driven by prevailing investor demand for dividend payers. Their empirical results (2004a, 2004b) show that non-dividend payers tend to initiate dividends when demand is high and omit dividends when demand is low. Li and Lie (2006) extend Baker and Wurgler's catering theory to include increases and decreases of dividends, and provide evidence supporting the catering theory. DeAngelo and DeAngelo (2006) argue that a firm's payout policy as well as investment policy affects firm value, refuting Miller and Modigliani's (1961) dividend irrelevance theory. Their results support the life-cycle theory of dividends, and DeAngelo et al. (2006), Fama and French (2001), Grullon et al. (2002) provide evidence supporting the life-cycle theory of dividends.

The scope of the majority of these studies is, however, limited to a single country with little attention given to the cross-country factors such as cultural differences across countries, which may explain the lack of consensus on the optimal dividend levels. Our study intends to fill this gap with an explicit consideration of cultural dimensions in explaining diverse corporate dividend policies across countries.

Several previous studies have examined corporate dividend policies in different countries. Ferris et al. (2008) examine dividend payments in thirty countries and provide some support for

¹ See Lease et al. (2001) and Allen and Michaely (2003) for excellent surveys on dividend policy.

both the catering theory and the life-cycle theory of dividends. In a study of six developed financial markets of U.S., Canada, U.K., Germany, France, and Japan, Denis and Osobov (2008) show results supporting the life-cycle theory of dividends that the propensity to pay dividends is higher among larger, more profitable firms, and firms with a higher proportion of retained earnings to total equity. La Porta et al. (2000) compare dividend practices in common law countries and civil law countries and provide evidence supporting the agency-based model of dividends. They report that firms operating in countries with greater shareholder protection tend to pay higher dividends since minority shareholders can force managers to pay dividends. Bancel et al. (2005) survey managers of European firms and their findings do not support La Porta et al.'s (2000) contention that dividend policy is influenced primarily by the quality of a legal system of the firm's home country. Instead, they show that a firm's dividend policy is determined by the complex interaction of the firm's ownership structure and the legal and institutional structures of its home country. Licht et al. (2005) point out that La Porta et al.'s legal approach explains only a small part of the universe of corporate governance regimes and emphasize the need to incorporate culture in the analysis of corporate governance.

Culture has been used in finance literature with many different meanings. Grinblatt and Keloharju (2001) find that investors are more likely to buy the stocks of firms whose chief executives are of the same cultural background. Their use of culture is merely the languages that firms use in their communication to shareholders and the names and native languages of chief executives. Using religion and language as proxies for culture, Stulz and Williamson (2003) show that these proxies are helpful in explaining the cross-sectional variation in creditor rights and how

investor rights are enforced across countries. Chui et al. (2002) use Schwartz's (1994) six cultural dimensions² to examine the effect of culture on firms' capital structures.

While the previous studies have employed the cultural framework in explaining various corporate behaviors and activities, few studies examine the effect of culture on corporate dividend policy. Khambata and Liu (2005) is the only published paper on the topic. They show that firms in countries with higher risk aversion exhibit lower dividend ratios and lower propensity to pay dividends among fourteen countries in the Asia-Pacific region. Extending the Khambata and Liu's (2005) study, we consider more complete cultural dimensions from both managers' and investors' points of view in our analysis and include firms across all regions as well as the Asia-pacific region. The main issues we examine in our paper are how the cultural framework and corporate governance are interrelated in explaining corporate dividend policies and whether cultural differences in countries have additional explanatory power in explaining variations in dividend levels across countries even after controlling for corporate governance factors and other firm- and country-specific factors.

We employ Hofstede (1980, 1991)'s three cultural dimensions of uncertainty avoidance (UA), masculinity (MAS), and long-term orientation (LTO) as proxies for culture.³ We hypothesize that if a country's UA is high, managers would prefer to hold more cash and pay less dividends to avoid a financial hardship, as Khambata and Liu (2005) point out, but investors would prefer the opposite as the bird-in-the-hand theory and the catering theory suggest. Therefore, the actual level of dividend payments would depend on the degree of corporate governance or shareholder rights protection when UA of a country is high. That is, if shareholder rights protection is strong, high UA induces more dividends as investors' preference would dominate managers' preference on

² The six cultural dimensions are Conservatism, Intellectual and Affective, Hierarchy, Mastery, Egalitarian Commitment, and Harmony.

³ A description of Hofstede's cultural dimensions is presented in Section 2.

dividends and vice versa.⁴ We also hypothesize a negative relationship between each of MAS and LTO and dividend levels that firms in countries with higher degrees of MAS and LTO pay less dividends.

Employing an extensive dataset of more than 112,000 firm-year observations in 33 countries during 1993-2004, we offer evidence supporting strong effects of culture on firms' dividend levels. Out results show that when a country's UA is high, its firms' dividend levels depend on the strength of its shareholder rights protection in such a manner that the dividend level is higher when the shareholder rights protection is stronger. These results reconcile the inconsistent evidence on firms' dividend levels documented in previous studies (see, e.g., La Porta et al., 2000; Bancel et al., 2005). Our results also show some, though not strong, evidence supporting a negative relationship between LTO and dividend levels that firms operating in countries with higher degrees of long-term orientation pay less dividends. In addition, our results confirm that liquidity, growth, and tax disadvantage of dividends influence firms' dividend levels as documented in the existing literature.

II. Development of hypotheses

2.1. Cultural dimensions

Hofstede (1980) analyzes the effects of cultural values on business organizations. He initially identifies four cultural dimensions: individualism and collectivism (IDV), power distance (PD), uncertainty avoidance (UA), and masculinity and femininity (MAS). Hofstede (1991) later adds one more dimension, long-term orientation (LTO). A brief description of Hofstede's (1980, 1991, 2005) five cultural dimensions is presented below.

Power Distance (PD): PD index measures the degree of inequality and dependence in a society. It is defined as the extent to which the less powerful members of institutions and

⁴ This prediction is opposite to what Khambata and Liu (2005) find in their study of firms in the Asia-Pacific region.

organizations within a country expect and accept that the power is distributed unequally. Hence, in countries with high PD scores, inequalities among people are both expected and accepted.

Individualism (IDV): The degree of individualism is measured against collectivism in a society. Hofstede (1991) suggests that individualism pertains to societies in which the ties between individuals are loose; everyone is expected to look after him/herself or his/her immediate family. To the opposite, collectivism pertains to societies in which people from birth onwards are integrated into strong, cohesive in-groups, which continue to protect them in exchange for unquestioning loyalty throughout people's lifetime.

Masculinity-Femininity (MAS): Masculinity scores measure the degree of cultural toughness versus tenderness in a society. The choice of jobs in masculine culture is strongly influenced by the potential career opportunities for different professions, while in feminine culture personal interest plays a more decisive role in this process. In a masculine society, managers are expected to be assertive, decisive, and aggressive, and organizations focus more on results and tend to reward individuals based on equity and performance rather than equality. Hence, in cultures with high MAS scores, a humanized job gives more opportunities for recognition, advancement, and challenge rather than more opportunities for mutual help and social contacts as in a feminine culture.

Uncertainty Avoidance (UA): Hofstede (1991) defines uncertainty avoidance as the extent to which the members of a culture feel threatened by uncertain or unknown situations, and this feeling is, among other things, expressed through a need for predictability. In countries with high UA scores, people are intolerant toward ambiguity, reluctant to run unfamiliar risk, and prefer more predictable result, and hence the need for safety and security prevails over their other feelings. Furthermore, people perceive uncertainty as a source of continuous threat that should be actively managed all the time. Therefore, people develop a strong desire for the existence of formal rules and procedures even though people may not always follow them.

Long-Term Orientation (LTO): LTO is defined as the fostering of virtues oriented toward future rewards–in particular, perseverance and thrift (Hofstede, 2005). In contrast, short-term orientation stands for the fostering of virtues related to the past and present–in particular, respect for tradition, preservation of face, and fulfilling social obligations.

Hofstede's cultural dimensions have been widely used in finance literature. Kwok and Tadesse (2006) focus on UA to explain the difference in financial systems across countries. They find that countries characterized by higher UA are more likely to have a bank-based system rather than a market-based system. Gleason et al. (2000) use PD, UA, and MAS to classify European retailers and show that capital structures of European retailers vary by cultural groups. Sekely and Collins (1988) find evidence supporting the hypothesis that cultural differences affect firms' capital structures across industries and countries. Datta and Puia (1995) show that cross-border acquisitions between firms with greater cultural distance generate lower wealth effects for acquiring firm shareholders, but Chakrabarti et al. (2009) document opposite results using the long-run approach. Kirkman et al. (2006) review studies incorporating Hofstede's cultural value framework and conclude that Hofstede's cultural values are clearly relevant for cross-cultural research even with their limitations.⁵

2.2. Testing hypotheses

Among the Hofstede's five cultural dimensions, both PD and IDV are highly correlated with LTO as shown in Table 3, suggesting a good substituting role of LTO in place of PD and

⁵ The limitations include (1) reducing culture to an overly simplistic five dimension conceptualization; (2) limiting sample to a single multinational corporation; (3) failing to capture the malleability of culture over time; and (4) ignoring within-country cultural heterogeneity (Sivakumar and Nakata, 2001).

IDV. Furthermore, the effects of PD and IDV on firms' dividend levels are not clearly inferred. Hence, we focus on three cultural dimensions of UA, MAS and LTO in developing the empirical relationships between culture and firms' dividend levels.

Dividend level and Uncertainty Avoidance (UA): In facing with high UA, a firm's managers and investors have different tendencies toward dividends. On the one hand, managers desire to keep more cash and pay less dividends to cope with possible financial difficulties in the future. On the other hand, as the bird-in-the-hand and catering theories of dividends suggest, investors prefer high dividends to low dividends. Whether a firm pays high or low dividends will then depend on the degree of corporate governance represented by shareholder rights protection. Hence, if the shareholder rights protection is strong, high UA would induce more dividends as investors' preference dominates managers' preference on dividends and vice versa. Based on this discussion, we postulate the relationship between UA and dividend levels as follows:

Hypothesis One: *Ceteris-paribus, the level of dividends in a country is positively (negatively) related to the country's UA index score if investor protection is high (low).*

Dividend level and Masculinity (MAS): Since masculine society focuses more on results and performance, managers would have an incentive to keep large cash holdings and use these liquidities strategically when opportunities arise. Newman and Nollen (1996) document that the asymmetric nature of performance reward and penalty is prevalent in the masculine society. The magnitude of compensation mangers make when their performance is good is much greater than that of penalty they are imposed when their performance is poor. Therefore, performance-driven managers tend to hold large cash holdings and pay less dividends to exploit investment opportunities. We call this effect as asymmetric compensation effect. On the other hand, steady and increasing dividends could be perceived by investors as the proof of managers' superior ability and performance according to signaling theory of dividends. As a result, to get the recognition of their performance, managers may prefer to pay a generous level of dividends. We call this effect as signaling effect. Accordingly, the relationship between MAS and dividend levels is unclear and subject to further empirical testing. Hence, our second hypothesis is developed as:

Hypothesis Two: Ceteris-paribus, the level of dividends in a country is either negatively or positively related to the country's MAS index score depending on the relative importance of signaling effect and asymmetric compensation effect.

Dividend level and Long Term Orientation (LTO): It is easily conceivable that the dividend levels are low if LTO is high because investors would forgo today's consumption from dividends for more cash in the future. Because of emphasis on patience, thrift, and self-reliance in high LTO countries, managers would accumulate earnings and pay less dividends for longer-term results. This leads us to postulate the relationship between LTO and the level of dividends as follows:

Hypothesis Three: Ceteris-paribus, the level of dividends in a country is negatively related to the country's LTO index score.

III. Empirical design and data

3.1. Empirical design

We perform both univariate analysis and multivariate regression analysis to test the three hypotheses on the relationships between cultural dimensions and dividend levels. A preliminary random effect test indicates that the ordinary least square regression is not suitable for our analysis. The test statistics of Breusch and Pagan's (1980) Lagrangian multiplier test for random effects reject the null hypothesis that country-specific residuals are all zero and suggest a significant amount of variance among countries. We follow up this result with the Hausman test to examine the assumption that both fixed effects and random effects coefficients are the same.⁶ The Hausman test statistics fail to reject a null hypothesis of no systematic difference in coefficients (with chi-square value of 22.10 and p-value of 0.5785), suggesting that it is safe to use a random effects model.⁷ Since our regression models employ country-level variables as well as firm-specific variables, we perform country random effects generalized least square (GLS) regression analysis. We also include year fixed effects to control for possible macroeconomic factors such as business cycles and financial crises, and industry fixed effects to control for industry-wide factors affecting firms' dividend decisions. Putting all together, we estimate the following regression model:

$$DIV_{it} = \alpha + \beta_1 LN(TA)_{it} + \beta_2 LEV_{it} + \beta_3 GROW_{it} + \beta_4 TAX_{it} + \beta_5 GOV_{it} + \beta_6 CULTURE_{it} + \sum_{j=7}^{17} \sum_{k=93}^{03} \beta_j YEAR_k + \sum_{j=18}^{28} \sum_{k=1}^{11} \beta_j IND_k + u_i + \varepsilon_{it}$$
(1)

where u_i represents the effect of firm i and \mathcal{E}_{it} is the residual effect for year t for firm i.⁸

Dependent variable

The dependent variable, DIV_{it} , is a firm i's cash dividends divided by total assets in year t.⁹

Control variables

⁶ The Hausman test checks a more efficient model against a less efficient but consistent model to make sure that the more efficient model also gives consistent results. The null hypothesis is that the coefficients estimated by the efficient random effects estimator are the same as the ones estimated by the consistent fixed effects estimator. If the two sets of coefficients are significantly different, the random effects model is problematic (see Hayashi, 2000).

⁷ La Porta et al. (2000) also use a similar random effects model for international dividend research.

 $^{^{8}}$ In random effect model (1), unit residuals u_{i} are normally distributed random variables but do not have specific values (see Hayashi, 2000).

⁹ We also employed alternative dependent variables of dividends adjusted by other firm variables (e.g., sales, price, and cash flows), whose results were qualitatively identical to those reported in our paper. We report some of these results later in the robustness section.

The control variables include several factors known to affect a firm's dividend level in the previous literature. LN(TA) represents a firm's total assets in natural log form. All else held equal, a larger firm will have a better access to capital markets to raise capital and hence a better capacity to pay and maintain dividends. Thus, a positive relation between LN(TA) and DIV is expected. LEV represents a firm's leverage, measured by short-term and long-term debt divided by total assets. A firm with higher leverage will have less flexibility in paying dividends; thus a negative relationship between LEV and DIV is expected. GROW represents sales growth rate, measured by a firm's three-year sales growth rate. A high-growth firm will have a greater need for cash flow, and is thus less likely to pay or increase dividends. Consequently, a negative relationship between GROW and DIV is expected. TAX represents the tax disadvantage of dividends in a country measured by the after-tax value of \$1 in dividends divided by the after-tax value of \$1 in capital gains¹⁰ and is collected from La Porta et al. (2000). YEAR is year dummies spanning from 1993 to 2003 with Year 2004 being deleted as a base year. IND is industry dummies representing petroleum (1), consumer durables (2), basic industry (3), food (4), construction (5), capital goods (6), transportation (7), textile (8), services (9), leisure (10), and construction (11), following the industry classification by Campbell (1996).

Test variables

Two key test variables are governance (GOV) and culture (CULTURE). GOV represents the degree of a firm's corporate governance. Following Atanassov and Kim (2009), for proxy for GOV, we use the (normalized) revised anti-director index for each country taken from Djankov et al. (2008).¹¹ This index measures the degree of minority shareholder protection against

¹⁰ This computation considers both federal and local taxes whenever possible and assumes that the effective long-term capital gains tax rate is one-fourth of the nominal income tax rate.

¹¹ The indexes are available from the author's web page: http://post.economics.harvard/faculty/shleifer/data.html. The normalized scores are shown in Atanassov and Kim (2009).

controlling shareholders' actions that would hurt shareholder value. A higher number of *GOV* indicates stronger investor protection. The variable of CULTURE represents Hofstede's three cultural dimensions of uncertainty avoidance (UA), masculinity (MAS), and long-term orientation (LTO). Hofstede's cultural dimension data for each country are collected from the Hofstede's website,¹² where data on LTO are available only for 16 countries in our sample. As discussed in the next section, the three culture proxy variables are highly correlated to each other, and hence enter the regression model separately.

3.2. Data

Our preliminary sample consists of all indusrial firms in 33 countries during the period of 1993-2004. We collect our sample firms from Worldscope database as in La Porta et al. (2000). Our sample firms span eleven industries as described earlier, and more regulated financial and utility companies are excluded.

We exclude firms whose financial data such as total assets, sales, total common equity, net income, and cash flow are missing or equal to or less than zero. We also exclude firms whose dividend information is not available. We further exclude firms whose UA index, governance index, leverage, sales growth, and dividend tax disadvantage are not available. Applying the selection criteria leads to a total of 112,295 firm-year observations in our final sample.

Table 1 presents key variables of dividend, governance, and culture with the total number of firm-year observations for each of the 33 countries in our sample. The average dividend payout ratio (divdends divided by earnings) ranges from the lowest 10.1% for U.S. firms to the highest 44.6% for firms in New Zealand, while the amount of dividends relative to a firm's total assets is lowest (0.6%) for Japan and Korea and highest (4.0%) for New Zealand. Looking at the

¹² www.cyborlink.com/website/hofstede.htm

governance index, which is proxied by the revised anti-director index for each country taken from Djankov et al. (2008), several countries including Hong Kong, India, Malaysia, Singapore, South Africa, Spain, and the U.K. share the top scores of governance index (0.83), indicating strongest investor protection in these countries, whereas Turkey and Belgium have the lowest scores of governance index (0.33). Uncertainty avoidance (UA), masculinity (MAS), long-term orientation (LTO), power distance (PD), and individualism and collectivism (IND) are Hofstede's five cultural dimensions. For example, UA's value ranges from the lowest 8 for Singapore to the highest 104 for Portugal.

IV. Empirical results

4.1. Summary statistics

Table 2 reports the summary statistics of dividend, firm- and country-specific variables, governance variable, and culture variables. A typical firm in our sample on average pays out 22.0% of its earnings and 1.3% of its total assets as dividends. It is also shown that a firm in our sample on average has a debt ratio 21.2% and a three-year growth rate of 17.7%. The after-tax value of \$1 in dividends in our sample countries is on average 72.1% of the after-tax value of \$1 in capital gains, ranging from 40.0% to 108%.

4.2. Analysis of correlations

Before we perform univariate and multivariate analyses, we examine the relationships between a firm's dividend level and key test variables of governance and culture as well as the relationships among other variables. Table 3 presents Pearson correlation coefficients for these variables. Looking first at the relationships between dividends and firm- and country-specific variables, both DIV/TA and DIV/Earnings are significantly (at least at the 0.01 level) positively correlated with TAX and TA but negatively with LEV and GROW. Hence, larger firms and/or firms in countries with more tax preference for dividends tend to pay higher dividends, whereas firms with higher debt ratios and/or higher growth rates tend to pay lower dividends.

The two dividend variables are also shown to be significantly positively correlated with GOV, indicating that firms operating in countries with greater investor protection tend to pay higher dividends. This finding is in line with those in the existing literature (see, e.g., La Porta et al., 2000).

The correlation analysis further shows different relationships between each of two dividend variables and the five cultural dimensions. While DIV/TA is significantly negatively correlated with UA, MAS, LTO, and IDV and positively with PD, DIV/Earnings is significantly positively correlated with four cultural measures of UA, MAS, LTO, and PD. These findings are, however, difficult to interpret mainly due to the absence of other effects controlled.

Among the five Hofstede's cultural dimensions, LTO is highly positively correlated with PD (corr. coeff. = 0.76) and negatively with IDV (corr. coeff. = -0.87), suggesting a good substituting role of LTO in place of PD and IDV. In addition, IDV and PD have a correlation coefficient of -0.72, indicating a very high inverse relationship between these two cultural variables. Consequently, we exclude IDV and PD from the regression analysis. This would not sacrifice much explanatory power due to those strong correlations but is more parsimonious and would also help avoid serious problems caused by the possible multicollinearity in the regression models.

4.3. Univariate analysis

Table 4 presents univariate test results on differences in means and medians of firms' dividend levels (measured by DIV/TA and DIV/Earnings) based on governance and culture variables. As shown in Panel A, both measures of dividend levels are, as expected, significantly higher in high governance countries than low governance countries in terms of both mean and median values. Hence, firms operating in countries with higher governance (that is, better investor protection) tend to pay more dividends. When governance is combined with the cultural variable of uncertainty avoidance (UA), we observe significantly more dividends paid by firms operating in countries with both higher governance and higher UA. Hence, firms are likely to pay more dividends when they operate in a country where both the degree of UA and the investor protection are high. These results provide evidence supporting our first hypothesis.

When dividend variables are compared based on alternative measures of culture, masculinity (MAS) and long-term orientation (LTO), we find interesting results as reported in Panels C and D of Table 4. Both measures of dividends are greater with high MAS countries than low MAS countries. Therefore, we see that signaling effect dominates asymmetric compensation effect. The result indirectly supports the signaling theory of dividend as the dividend is used as evidence of the firm's profitability and performance. But the results of the univariate analyses are not conclusive because we did not control other important variables of dividend determination. With LTO, only dividend levels measured by DIV/TA are significantly (at the 1% level) higher for low LTO countries than for high LTO countries, but DIV/Earnings show inconsistent results¹³.

¹³ Using DIV/Earnings as a dependent variable can produce a misleading result because of documented stickiness in dividend levels when earnings change. Even when dividends increase in absolute terms, if earnings increase proportionally more, then the end result can be such that DIV/Earnings decreases. It seems that DIV/TA is the most reliable measure as a dependent variable.

The overall results from univariate analysis offer two interesting, though weak, implications on firms' dividend levels. First, firms tend to pay higher dividends (at least in terms of DIV/TA) in countries with higher governance (or investor protection) and higher uncertainty avoidance and in countries with lower long-term orientation. Second, differences in cultural values of countries provide an important role in explaining variations in dividend levels across countries.

4.4. Effects of corporate governance and cultural dimensions on dividend levels

Table 5 reports the regression coefficients estimated from several different models of country random effects GLS regression. Model 1 includes GOV alone without any cultural variables, while Models 2 through 4 include each of three cultural variables separately without GOV in the regression. In Models 5 through 7, we include both GOV and each of cultural variables in the regression model. While the overall R^2 varies from 8.8% (Model 2) to 12.2% (Model 7), all models show significant (at least at the 1% level) Wald chi-square values.

The estimated coefficients of firm- and country-specific control variables are in general consistent with our expectations. *LN(TA)* and *TAX* have positive signs, and *LEV* and *GROW* have negative signs, whose regression coefficients are all significantly different from zero at least at the 10% level. Hence, confirming our results from the correlation analysis reported in Table 3, larger firms and/or firms operating in countries with more tax preference for dividends tend to pay higher dividends, whereas firms with higher debt ratios and/or higher growth rates tend to pay lower dividends. These findings are consistent with those in the existing literature of dividend policies (see, e.g., La Porta, et al., 2000; Ferris et. al, 2008). We also include Year

dummies and Industry dummies in the regressions but do not report the estimation results for brevity's sake.

We now turn to estimation results on governance and culture variables to examine whether variations in dividend levels across countries can be explained at least in part by differences in culture. As shown in Model 1, GOV carries a positive and significant (at the 10% level) coefficient as expected, indicating a positive association between a firm's dividend level and its corporate governance factor. Hence, firms in countries with greater investor protection tend to pay higher dividends. These results are consistent with our earlier findings from correlation analysis and with those in previous studies (e.g., La Porta et al., 2000; Ferris et al., 2008).

Models 2 through 7 show regression coefficients of each of the three cultural variables with and without the governance variable of GOV in the regression. UA, representing the degree of uncertainty avoidance in a country, has a negative and significant (at the 1% level) coefficient, indicating a strong negative relationship between UA and dividend level; firms in high UA countries pay less dividends. These findings suggest that when mangers' and investors' desires are in conflict, managers' perspectives tend to outweigh investors' in determining firms' dividend levels.

When cultural variables enter in the regression along with GOV, two cultural variables still carry significant regression estimates as shown in Models 5 through 7. In Models 5 and 7, the regression coefficients of UA and LTO remain negative and significant at the 5% level without sacrificing any explanatory power as evidenced by the significant Wald chi-square values, compared to those in Models 2 and 4. In particular, when GOV and UA are taken together in Model 5, the signs of GOV and UAI remain the same as before, but GOV is no longer significant. These results suggest more explanatory power of UA over corporate governance in explaining

variations in firms' dividend levels. Overall results in Table 5 lend support to the notion that in spite of previous studies' heavy focus on the role of corporate governance in explaining various corporate behaviors, cultural differences offer additional explanatory power and thus are equally, if not more, important in explaining variations in dividend levels across countries.

4.5. Joint effects of corporate governance and uncertainty avoidence on dividend levels

While UA in regression equation (1) measures the effect of differences in culture (with regard to uncertainty avoidance) on firms' dividend levels, its regression estimate may not capture the marginal effect of the cultural value on dividend levels associated with high investor protection relative to low investor protection, thus failing to provide conclusive evidence to either support or reject our first hypothesis. Hence, we include an interaction term of UA interacted with high governance country (*HIGHGOV*UA*) in the regression to examine whether firms operating in a high UA country pay more dividends when the country has better investor protection in the following regression model:

$$DIV_{it} = \alpha + \beta_1 LN(TA)_{it} + \beta_2 LEV_{it} + \beta_3 GROW_{it} + \beta_4 TAX_{it} + \beta_5 GOV_{it} + \beta_6 UA_{it} + \beta_7 (HIGHGOV * UA)_{it} + \sum_{j=8}^{18} \sum_{k=93}^{03} \beta_j YEAR_k + \sum_{j=19}^{29} \sum_{k=1}^{11} \beta_j IND_k + u_i + \varepsilon_{it}$$
(2)

where *HIGHGOV*UA* is an interaction term of *HIGHGOV* and *UA*, where *HIGHGOV* equals 1 for countries whose GOV index is equal to or greater than the median score of 0.58 and 0 otherwise, and all other variables are as defined in equation (1). The GOV index is normalized score used in Atanassov and Kim (2009).

Table 6 reports the estimated results from country random effects GLS regression models. The interaction term of *HIGHGOV*UA* enters the regression along with *UA* in Model 1 and with both *UA* and *GOV* in Model 2. In both models, the estimated coefficients of *UA* and firm- and country-specific control variables all carry the expected signs and thus are consistent with those reported in Table 5. *UA* has a negative and significant (at least at the 5%) coefficient; hence, in facing with an uncertain future, firms tend to pay less dividends with higher uncertainty avoidance as managers' desire of keeping more cash dominates investors' desire of getting more dividends.

Turning to the estimated results of our key testing variable, the estimated coefficient of the interaction term of *HIGHGOV*UA* is positive and significant at the 1% level in both models. Hence, in facing with an uncertain future, more dividends are paid by firms operating in a country with higher investor protection than by firms in a country with lower investor protection. These results suggest that in high governance countries, when UA is higher, investors' desire of getting more dividends outweighs managers' wish of retaining more cash and paying less dividends. Therefore, greater shareholder rights stemming from stronger legal, regulatory, and market systems seem to enable shareholders to force managers to pay higher dividends. These results are consistent with the predictions of the catering theory and the agency theory.

One potential problem associated with including the interaction variable of *HIGHGOV*UA* in regression model is the high negative correlation (-0.44) between *GOV* and *UA* variables as reported in Table 3. In order to investigate the joint effects of *UA* and *GOV* further and to mitigate the high correlation effect of the two variables, we divide our sample into two groups of high and low country levels of *GOV* and estimate equation (2) without *GOV* and the interaction term of *GOV*UA* for each of these two subsamples. Since the median score of *GOV* is 0.58, any country whose *GOV* index is greater (less) than 0.58 is included in the high (low) GOV group. The estimation results are reported in Models 3 and 4 of Table 6 and offer confirming evidence. In high governance countries, as in Model 3, *UA* has a positive and significant (at the 1% level)

coefficient. Hence, when *UA* is high in a country with greater investor protection, investors' desire of more dividends dominates over managers' desire of retaining cash and thus force firms to pay more dividends. In contrast, in low governance countries, as shown in Model 4, *UA* carries a negative and significant (at the 1% level) coefficient whose result is qualitatively identical to the estimate of *UA* in Models 1 and 2. Accordingly, when *UA* is high in a country with weaker investor protection, firms are more likely to follow managers' desire of paying less dividends and preserving more cash to prepare for any adverse situation instead of respecting investors' desire.

4.6. Robustness tests

In order to ensure the robustness of our empirical results, we perform two robustness tests.

First, we estimate equation (2) using two alternative measures of dividends, dividends divided by earnings and dividends divided by sales, as the dependent variable to check if our regression results are sensitive to the way how the dividend levels are measured. As shown in Models 1 and 2 of Table 7, *HIGHGOV*UA* has the same positive and significant (at least at the 5% level) regression coefficient as in Table 6 and confirms our earlier evidence on the effect of UA on dividend levels between high and low governance countries. It is also shown that while *UA* carries the same negative and significant coefficient as before, *GOV* has an insignificant coefficient (at the 10% level) in both models. Hence, the culture variable of *UA* plays an important role in determining firms' dividend levels but *GOV* does not. Also, the effects of firm size, dividend tax disadvantage, leverage, and growth are shown to be invariant against different measures of firms' dividend levels.

Second, about 35% of firms in our sample pay no dividends. Hence, to check the possibility of biased regression estimates due to a large number of zero values for the dependent variable, we estimate equation (2) employing only firms that pay dividends. As reported in Models 3 and 4 of Table 7, the estimation results are qualitatively identical to those reported in Models 3 and 4 of Table 6. UA has a positive and significant (at the 1% level) coefficient in high governance countries but a negative and significant (at the 1% level) coefficient in low governance countries. Hence, the effect of uncertainty avoidance on firms' dividend levels depends on the degree of governance (or investor protection). Again, these results offer evidence supporting our first hypothesis.

V. Summary and conclusion

Our paper provides new insights on dividend research by introducing cultural dimensions in the analysis of corporate dividend policies. It is hard to deny the influence of culture in any aspect of human lives, hence it would be natural to expect that the propensity to pay and how much to pay dividends are also affected by the culture of a country. While the previous studies focus primarily on the relationship between corporate governance and firms' dividend levels, our paper examines the role of cultural differences in countries in explaining variations in dividends levels across firms in different countries after controlling for country's corporate governance index.

Employing Hofstede's three cultural dimensions as proxies for culture, we report the following main results.

First, two of three Hofstede's cultural dimensions, uncertainty avoidance and long-term orientation, show significant regression coefficients even in the presence of the governance variable. Hence, cultural differences across countries indeed add explanatory power and thus play important roles in explaining variations in dividend levels across countries. To be more specific, when people's uncertainty avoidance is high, the firm's dividend level depends on the strength of corporate governance. When shareholder rights protection is strong, investors' desire of having sure dividends outweighs managers' desire of keeping more cash, forcing firms to pay more dividends, and vice versa. On the other hand, in countries where the degree of uncertainty avoidance is low, it is possible that people prefer uncertain capital gains to sure cash dividends. Similarly, differences in a society's long-term orientation also exhibit significant explanatory power in determining firms' dividend levels even in the presence of the governance factor. The regression results support our third hypothesis of the negative relationship between firms' dividend levels and long-term orientation. Unlike uncertainty avoidance and long-term orientation, people's degree of masculinity as a proxy measure of culture shows little effect on firms' dividend levels as signaling effect and asymmetric compensation effect offset each other.

Second, firms' dividend levels are positively affected by firm size and dividend tax advantage but negatively by financial leverage and growth rate. These results are consistent with those of previous studies on dividend policies and offer validity of regression models used for our analyses.

Overall, our results provide strong evidence on the important roles of cultural dimensions in explaining variations in firms' dividend levels across countries and thus emphasize the need to incorporate culture in the analysis of firms' dividend levels.

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	No. of								
	firm-	DIV/	DIV/	Governance	UA	MAS	LTO	PD	IND
	years	TA	Earnings	index					
Argentina	221	0.011	0.159	0.50	86	56	N/A	49	46
Australia	2,598	0.030	0.393	0.67	51	61	31	36	90
Austria	600	0.016	0.330	0.42	70	79	N/A	11	55
Belgium	746	0.015	0.276	0.33	94	54	N/A	65	75
Canada	3,775	0.007	0.121	0.67	48	52	23	39	80
Denmark	1,192	0.012	0.211	0.67	23	16	N/A	18	74
Finland	999	0.022	0.330	0.58	59	26	N/A	33	63
France	5,148	0.012	0.239	0.50	86	43	N/A	68	71
Germany	3,845	0.014	0.293	0.42	65	66	31	35	67
Hong Kong	3,005	0.025	0.274	0.83	29	57	96	68	25
India	2,276	0.020	0.268	0.83	40	56	61	77	48
Indonesia	1,036	0.019	0.227	0.67	48	46	N/A	78	14
Ireland	496	0.013	0.207	0.67	35	68	N/A	28	70
Italy	1,318	0.012	0.276	0.42	75	70	N/A	50	76
Japan	18,523	0.006	0.288	0.58	92	95	80	54	46
Korea	3,375	0.006	0.167	0.58	85	39	75	60	18
Malaysia	3,253	0.016	0.256	0.83	36	50	N/A	104	26
Mexico	944	0.013	0.180	0.50	82	69	N/A	81	30
Netherlands	1,718	0.017	0.240	0.50	53	14	44	38	80
New Zealand	450	0.040	0.446	0.50	49	58	30	22	79
Norway	851	0.013	0.213	0.58	50	8	N/A	31	69
Philippines	219	0.010	0.143	0.50	44	64	19	94	32
Portugal	361	0.009	0.253	0.42	104	31	N/A	63	27
Singapore	2,233	0.017	0.261	0.83	8	48	48	74	20
South Africa	2,082	0.022	0.242	0.83	49	63	N/A	49	65
Spain	999	0.016	0.272	0.83	86	42	N/A	57	51
Sweden	1,736	0.019	0.267	0.58	29	5	33	31	71
Switzerland	1,548	0.013	0.258	0.50	58	70	N/A	34	68
Taiwan	4,507	0.010	0.142	0.50	69	45	87	58	17
Thailand	1,718	0.026	0.323	0.67	64	34	56	64	20
Turkey	629	0.028	0.209	0.33	85	45	N/A	66	37
U.K.	9,882	0.025	0.341	0.83	35	66	25	35	89
U.S.	30,012	0.007	0.101	0.50	46	62	29	40	91

 Table 1

 Dividend, Culture, and Governance Variables by Country

Notes: Governance index represents the degree of a firm's corporate governance in a country and is proxied by the revised anti-director index for each country taken from Djankov et al. (2008). This index measures the degree of minority shareholder protection against controlling shareholders' actions; a higher number of governance index indicates stronger investor protection. The presented index in this table follows normalized numbers from Atanassov and Kim(2009). Uncertainty avoidance (UA), masculinity (MAS), long-term orientation (LTO), power distance (PD), and individualism and collectivism (IND) are Hofstede's five cultural dimensions; a higher value indicates a higher degree of cultural perception in each category.

	No. of				
Variable	observations	Mean	Median	Minimum	Maximum
Dividend variable	es				
DIV/TA	112,295	0.013	0.006	0	0.576
DIV/Earnings	112,295	0.220	0.160	0	1.000
-					
Firm- and country	y-specific variabl	es			
TA (\$ million)	112,295	1,802.68	217.63	5.00	462,245
LEV	112,295	0.212	0.192	0	2.095
GROW	112,295	0.177	0.085	-0.874	2.999
TAX	112,295	0.721	0.700	0.400	1.080
Governance varia	able				
GOV	112,295	0.598	0.58	0.33	0.83
Culture variables	7				
UA	112,295	57.910	48	8	104
MAS	112,295	60.987	62	5	95
LTO	89,872	47.982	31	19	96
PD	112,295	49.318	40	11	104
IDV	112,295	64.308	71	14	91

Table 2Summary Statistics of Variables

Notes: The sample consists of 112,295 firm-year observations from 33 countries during 1993-2004. TA is a firm's inflation-adjusted total assets. LEV is a firm's leverage, measured by short-term and long-term debt divided by total assets. GROW is sales growth rate, measured by a firm's three-year sales growth rate. TAX represents the tax (dis)advantage of dividends in a country measured by the after-tax value of \$1 in dividends divided by the after-tax value of \$1 in capital gains and is collected from La Porta et al. (2000). GOV, governance index, represents the degree of corporate governance in a country and is proxied by the revised anti-director index for each country taken from Djankov et al. (2008), measuring the degree of minority shareholder protection against controlling shareholders' actions. The presented index in this table follows normalized numbers from Atanassov and Kim(2009). Uncertainty avoidance (UA), masculinity (MAS), long-term orientation (LTO), power distance (PD), and individualism and collectivism (IDV) are Hofstede's five cultural dimensions.

	DIV/										
	Earnings	GOV	UA	MAS	LTO	PD	IDV	TAX	LEV	GROW	TA
DIV/TA	0.57	0.21	-0.14	-0.11	-0.06	0.01	-0.01	0.20	-0.19	-0.04	0.00
	(<0.00)	(<0.00)	(<0.00)	(<0.00)	(<0.00)	(0.00)	(<0.00)	(<0.00)	(<0.00)	(<0.00)	(0.54)
DIV/Earnings		0.18	0.07	0.07	0.12	0.04	-0.11	0.21	-0.01	-0.12	0.19
		(<0.00)	(<0.00)	<0.00)	(<0.00)	(<0.00)	< 0.00)	(<0.00)	(<0.00)	(<0.00)	(<0.00)
GOV			-0.44	-0.04	0.07	0.27	-0.21	0.44	-0.04	0.02	-0.11
			(<0.00)	(<0.00)	(<0.00)	(<0.00)	(<0.00)	(<0.00)	(<0.00)	(<0.00)	(<0.00)
UA				0.43	0.67	0.21	-0.36	-0.13	0.08	-0.09	0.12
				(<0.00)	(<0.00)	(<0.00)	(<0.00)	(<0.00)	(<0.00)	(<0.00)	(<0.00)
MAS					0.33	-0.02	0.01	-0.16	-0.02	-0.07	0.11
					(<0.00)	(<0.00)	(0.01)	(<0.00)	(<0.00)	(<0.00)	(<0.00)
LTO						0.76	-0.87	0.07	0.08	-0.07	0.03
						(<0.00)	(<0.00)	(<0.00)	(<0.00)	(<0.00)	(<0.00)
PD							-0.72	0.03	0.04	-0.01	-0.08
							(<0.00)	(<0.00)	(<0.00)	(0.05)	(<0.00)
IDV								-0.29	-0.08	0.03	0.05
								(<0.00)	(<0.00)	(<0.00)	(<0.00)
TAX									-0.01	0.01	-0.04
									(0.08)	(0.00)	(<0.00)
LEV										0.02	0.22
										(<0.00)	(<0.00)
GROW											-0.02
											(<0.00)

Table 3Pearson Correlation Coefficients

Notes: The sample consists of 112,295 firm-year observations from 33 countries during 1993-2004. GOV is governance index in a country, proxied by the revised anti-director index taken from Djankov et al. (2008), measuring the degree of minority shareholder protection against controlling shareholders' actions. Uncertainty avoidance (UA), masculinity (MAS), long-term orientation (LTO), power distance (PD), and individualism and collectivism (IDV) are Hofstede's five cultural dimensions. TA is a firm's total assets. LEV is a firm's leverage, measured by short-term and long-term debt divided by total assets. GROW is sales growth rate, measured by a firm's three-year sales growth rate. TAX represents the tax (dis)advantage of dividends in a country measured by the after-tax value of \$1 in capital gains and is collected from La Porta et al. (2000). P-values are in parentheses.

Panel A: Based on governance index (GOV)								
	-	Higl	h GOV	Low GOV				
	M		Iean	Mean				
	(\mathbf{N})		edian)	(Median)	t-statistics	z-statistics		
DIV/TA		2.0	058%	0.927%	83.27***	90.80***		
		(1.1	345%)	(0.380%)				
DIV/Earnings		27.	835%	19.471%	53.72***	59.04***		
		(24.4	462%)	(11.486%)				
Panel B. Based	on governanc	e index (GO	V) and uncer	tainty avoidan	ce (UA)			
	High	GOV		Low GOV				
	High UA	Low UA		High UA	Low UA			
	Mean	Mean	t-statistic	Mean	Mean	t-statistic		
	(Median)	(Median)	(z-statistic)	(Median)	(Median)	(z-statistic)		
DIV/TA	2.49%	1.94%	13.08***	1.04%	0.77%	21.41***		
	(1.71%)	(1.27%)	(11.98***)	(0.60%)	(0.00%)	(75.99***)		
DIV/Earnings	31.80%	26.76%	14.29***	25.37%	11.03%	90.66***		
	(29.37%)	(23.42%)	(12.87***)	(20.73%)	(0.00%)	(101.74***)		
Panel C: Based	on masculini	ty (MAS)						
		Higl	h MAS	Low MAS				
		Ν	Iean	Mean	t-statistic	z-statistic		
		(Me	edian)	(Median)				
DIV/TA		1.	340%	1.239%	7.42***	54.53***		
		(0.7	749%)	(0.286%)				
DIV/Earnings		29.3	393%	18.063%	76.23***	89.37***		
		(25.)	753%)	(6.388%)				
Panel D: Based	on long-term	orientation (LTO)					
		Hig	h LTO	Low LTO				
		Ν	Iean	Mean				
		(Me	edian)	(Median)	t-statistics	z-statistics		
DIV/TA		1.	151%	1.341%	14.01***	12.45***		
		(0.:	528%)	(0.604%)				
DIV/Earnings		25.:	536%	20.179%	35.26***	48.13***		
		(20.3	890%)	(11.314%)				

Table 4
Univariate Analysis

Notes: The sample consists of 112,295 firm-year observations from 33 countries during 1993-2004. Uncertainty avoidance (UA), masculinity (MAS), and long-term orientation (LTO) are Hofstede's three cultural dimensions. GOV is governance index in a country, proxied by the revised anti-director index taken from Djankov et al. (2008), measuring the degree of minority shareholder protection against controlling shareholders' actions. T- and z-statistics are for testing for differences in means and medians, respectively. *** indicates significance at the 1% level.

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Intercept	0.002	0.015***	0.011*	-0.005***	0.011**	0.002	-0.011***
	(0.40)	(3.39)	(1.92)	(-8.20)	(2.09)	(0.58)	(-21.89)
GOV	0.011*				0.005	0.011	0.033***
	(1.69)				(0.98)	(1.53)	(50.26)
UA		-0.001***			-0.001**		
		(-2.68)			(-2.27)		
MAS			-0.001			-0.001	
			(-0.67)			(-0.56)	
LTO				-0.001***			-0.001***
				(-18.61)			(-21.10)
LN(TA)	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***
	(25.20)	(25.17)	(25.19)	(15.39)	(25.11)	(25.21)	(19.82)
TAX	0.012**	0.011**	0.011*	0.032***	0.011***	0.011*	0.016***
	(2.03)	(2.48)	(1.94)	(68.97)	(3.44)	(1.78)	(27.58)
LEV	-0.025***	-0.025***	-0.025***	-0.022***	-0.025***	-0.025***	-0.021***
	(-68.40)	(-68.39)	(-68.41)	(-53.93)	(-68.37)	(-68.41)	(-53.79)
GROW	-0.002***	-0.002***	-0.002***	-0.002***	-0.002***	-0.002***	-0.002***
	(-14.55)	(-14.55)	(-14.55)	(-10.91)	(-14.55)	(-14.55)	(-11.71)
Year Dummies	YES						
Industry Dummies	YES						
No. of observations	112,295	112,295	112,295	89,872	112,295	112,295	89,872
Overall R ²	0.094	0.088	0.080	0.097	0.095	0.099	0.122
Wald chi-square	6,053.65***	6,058.57***	6,051.10***	9,624.47***	6,067.03***	6,053.35***	12,420.74***

 Table 5

 Effects of Governance and Cultural Dimensions on Dividend Levels

Notes: The table shows results of country random effects GLS regressions using firm's dividends divided by total assets as the dependent variable during 1993-2004. *GOV* is governance index in a country, proxied by the revised anti-director index taken from Djankov et al. (2008), measuring the degree of minority shareholder protection against controlling shareholders' actions. The presented index in this table follows normalized numbers from Atanassov and Kim(2009). *UA* is uncertainty avoidance; *MAS* is masculinity, and *LTO* is long-term orientation, representing Hofstede's cultural dimensions. *LN(TA)* is a firm's total assets in natural log form. *LEV* is a firm's leverage, measured by short-term and long-term debt divided by total assets. *GROW* is sales growth rate, measured by a firm's three-year sales growth rate. *TAX* represents the tax (dis)advantage of dividends in a country measured by the after-tax value of \$1 in dividends divided by the after-tax value of \$1 in capital gains and is collected from La Porta et al. (2000). *Year dummies* span from 1993 to 2003 with 2004 as the base year. *Industry dummies* span 11 industries following the industry classification by Campbell (1996). For brevity's sake, we do not report regression estimates of Year and Industry dummies. Z-statistics are in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Variable			Model 3	Model 4
	Model 1	Model 2	Country C	GOV level
			High	Low
Intercept	0.012***	0.024***	0.011***	0.004***
*	(3.03)	(3.74)	(9.45)	(5.74)
GOV		-0.018**		
		(2.36)		
UA	-0.001**	-0.001***	0.001***	-0.001***
	(-2.42)	(-3.47)	(5.04)	(-16.41)
HIGHGOV*UA	0.001***	0.001***		
	(3.08)	(3.91)		
LN(TA)	0.001***	0.001***	0.001***	0.001***
	(25.15)	(25.15)	(11.71)	(19.93)
TAX	0.012***	0.012***	0.009***	0.018***
	(3.32)	(3.57)	(6.93)	(38.93)
LEV	-0.025***	-0.025***	-0.044***	-0.017***
	(-68.38)	(-68.39)	(49.11)	(-48.96)
GROW	-0.002***	-0.002***	-0.002***	-0.002***
	(-14.56)	(-14.56)	(-4.84)	(-15.11)
Year Dummies	YES	YES	YES	YES
Industry Dummies	YES	YES	YES	YES
No. of observations	112,295	112,295	34,545	77,750
No. of countries	33	33	13	20
Overall R ²	0.107	0.096	0.083	0.063
Wald chi-square	6,073.11***	6,081.53***	3,140.32***	5,187.49***

 Table 6

 Joint Effects of Governance and Uncertainty Avoidance (UA) on Dividend Levels

Notes: The table shows results of country random effects GLS regressions using DIV/TA (firm's dividends divided by total assets) as the dependent variable for 112,295 firm-year observations in 33 countries during 1993-2004. GOV is governance index in a country, proxied by the revised antidirector index taken from Djankov et al. (2008), measuring the degree of minority shareholder protection against controlling shareholders' actions. The presented index in this table follows normalized numbers from Atanassov and Kim(2009). UA is uncertainty avoidance. HIGHGOV*UA is an interaction term of UA interacted with HIGHGOV, where HIGHGOV equals one for countries whose governance index is equal to or greater than the median score of 0.58 and zero otherwise. LN(TA) is a firm's total assets in natural log form. LEV is a firm's leverage, measured by short-term and long-term debt divided by total assets. GROW is sales growth rate, measured by a firm's three-year sales growth rate. TAX represents the tax (dis)advantage of dividends in a country measured by the after-tax value of \$1 in dividends divided by the after-tax value of \$1 in capital gains and is collected from La Porta et al. (2000). Year dummies span from 1993 to 2003 with 2004 as the base year. Industry dummies span 11 industries, following the industry classification by Campbell (1996). For brevity's sake, we do not report regression estimates of Year and Industry dummies. Z-statistics are in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Model 1	Model 2	Model 3	Model 4
-	Dependent Variable		Country G	OV Level
Variable	DIV/Earnings	DIV/Sales	High	Low
Intercept	0.066	0.015	0.011***	0.003***
-	(1.41)	(1.60)	(5.95)	(53.00)
GOV	0.005	-0.014		
	(0.10)	(-1.30)		
UA	-0.001*	-0.001**	0.001***	-0.001***
	(-1.95)	(-2.33)	(14.76)	(-63.86)
HIGHGOV*UA	0.001**	0.001***		
	(2.04)	(3.83)		
LN(TA)	0.026***	0.002***	-0.001***	-0.001***
	(68.32)	(34.47)	(-12.51)	(-25.54)
TAX	0.087***	0.019***	0.033***	0.009***
	(3.34)	(3.67)	(21.23)	(13.94)
LEV	-0.099***	-0.028***	-0.050***	-0.025***
	(-25.19)	(-46.14)	(-43.71)	(-46.45)
GROW	-0.052***	-0.004***	-0.002***	-0.000***
	(-31.51)	(-16.70)	(-0.43)	(-1.25)
Year Dummies	YES	YES	YES	YES
Industry Dummies	YES	YES	YES	YES
No. of observations	112,295	112,295	25,921	42,856
No. of countries	33	33	13	20
Overall R ²	0.100	0.078	0.117	0.1682
Wald chi-square	9,105.42***	4,749.53***	3,432.29***	8,663.12***

Table 7Robustness Tests

Notes: The table shows results of country random effects GLS regressions for 112,295 firm-year observations in 33 countries during 1993-2004. For Models 3 and 4, the regressions are estimated using DIV/TA (firm's dividends divided by total assets) as the dependent variable only for firms that pay dividends. GOV is governance index in a country, proxied by the revised anti-director index taken from Djankov et al. (2008), measuring the degree of minority shareholder protection against controlling shareholders' actions. The presented index in this table follows normalized numbers from Atanassov and Kim(2009). UA is uncertainty avoidance, representing one of five Hofstede's cultural dimensions. HIGHGOV*UA is an interaction term of UA interacted with HIGHGOV, where HIGHGOV equals one for countries whose governance index is equal to or greater than the median score of 0.58 and zero otherwise. LN(TA) is a firm's total assets in natural log form. LEV is a firm's leverage, measured by short-term and long-term debt divided by total assets. GROW is sales growth rate, measured by a firm's three-year sales growth rate. TAX represents the tax (dis)advantage of dividends in a country measured by the after-tax value of \$1 in dividends divided by the after-tax value of \$1 in capital gains and is collected from La Porta et al. (2000). Year dummies span from 1993 to 2003 with 2004 as the base year. *Industry dummies* span 11 industries, following the industry classification by Campbell (1996). For brevity's sake, we do not report regression estimates of Year and Industry dummies. Z-statistics are in parentheses. *** and ** indicate significance at the 1% and 5% levels, respectively.