A CULTURAL EXPLANATION FOR THE AGENCY MODEL OF DIVIDENDS

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Abstract

We present a culturally rooted agency explanation for differences in dividend payout strategies of firms around the world. Linking dividends to informal institutions of culture across 41 countries and 6,982 firms, our analysis reveals that high individualism, low power distance and low uncertainty avoidance are significantly associated with higher dividend payouts. As the explanatory power of cultural versus legal origins is higher we belive that dividend policies are more consequences of culture rather than of legal protection.

Keywords: Dividends, Agency problems, Culture

JEL Classification Numbers: G28, G35, K00, Z10

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"If we learn anything from the history of economic development, it is that culture makes almost all of the difference." (Weber, 1930)

1 Introduction

The agency approach to dividends (Gomes, 2000, Zwiebel, 1996) suggests that dividend policies help to address agency problems between corporate insiders and outside shareholders. It builds on the idea that dividends reduce the discretionary funds available for managerial opportunism manifested for example in diversion of corporate funds for personal use or investment in unprofitable projects. In the hitherto closest attempt to empirically amalgamate these microeconomic concepts, La Porta et al. (2000) link the agency model of dividends to legal protection of shareholders. They propose that legal protection provides outside shareholders with certain powers to protect their investment against the expropriation by insiders. This is because outside shareholders embedded with greater powers to protect their investment are able to secure higher dividends and thus lower agency costs associated with expropriation. In a wide cross-section of firms from 33 countries, La Porta et al. (2000) show that firms in common law countries, where investor protection is typically better, pay on average higher dividends relative to firms in civil law countries. This result supports the view that dividends are an *outcome* of effective legal protection.

In this paper, we highlight cultural norms as an additional source of cross-country differences in dividend payouts. We propose that cultural norms significantly affect the use of dividends as means of reducing agency costs. The main idea is that cultural norms significantly alter the basic nature of agency relationships across countries (Ekanayake, 2004; Johnson and Droege, 2004; Morris et al., 2001) and therefore also dividend policies. In societies with cultural norms that amplify agency conflicts shareholders may require higher dividends to mitigate the higher agency costs. In contrast, in societies with cultural dimensions that encourage lower agency costs, shareholders are more lenient in using dividends to discipline managers. For theoretical support we rely on new institutional economics that suggests that societal believes, norms and values constrain economic interaction (North, 1990 and Williamson, 2000). Williamson (2000) suggests that resource allocation on the micro-economic level has to be consistent with informal institutions,

including culture, on the top level of his economic system. As a result, culture as "societal common knowledge" constrains economic interaction (Greif and Laitin, 2004).

We measure culture's consequences for corporate dividend payout decisions based on national scores on Hofstede's cultural dimensions of *individualism*, *power distance*, and *uncertainty avoidance* (Hofstede, 1980) and derive three hypotheses. First, cultures scoring high on individualism emphasize vigorous pursuit of personal interests rather than deference to others' decisions and interest. We postulate that these societies are naturally embedded with higher agency costs and therefore are associated with higher dividend payments to discipline corporate insiders. Second, low power distance societies dislike unequal distribution of power and wealth among its individual members. Accordingly, investors in these countries are more sensitive to managerial opportunism perpetuating power and wealth differentials. As a result, low power distance is associated with high dividend payouts. Finally, firms in societies with high uncertainty avoidance (that is societies with low levels of tolerance for ambiguity and uncertainty) set rules and organizational structures that help to deal with ambiguity. These structures ensure order, limit opportunism on the side of insiders and therefore minimize agency costs. Accordingly, there is less demand for dividends to perform their agency-cost-minimizing function.

Analysis on a cross section of 6,982 firms from 41 countries shows that differences in dividend payout strategies have, in fact, strong cultural origins. In particular, we find that firms in countries that score high on individualism and low on power distance and uncertainty avoidance pay higher dividends. Moreover, our analysis also shows that legal origin and investor protection have less explanatory power relative to the cultural dimensions.

The remainder of this paper is organized as follows. Section 2 provides general theoretical background that explains culture's consequences for economic behaviour. We explain the link between culture and dividends and derive testable hypotheses for the three cultural dimensions in Section 3. Section 4 describes the data and methodology. Section 5 discusses our results and confirms the validity of our results through a series of robustness checks. We conclude in Section 6.

2 Culture's consequences for economic outcomes and dividends

Over the past decade, an extensive body of empirical evidence highlighted the fact that law and finance are intertwined in the sense that better minority shareholder protection is a statistically significant and economically relevant predictor of a variety of measures of stock market development across countries (Djankov et al., 2008). Better investor protection is associated with wider stock markets, more IPOs, voting premiums, dividend payouts, firm valuation, and ownership concentration.[1] The central idea of this legal origins model is that legal protection of outside investors limits managerial (insider) opportunism and thereby promotes financial and economic development (La Porta et al., 2008).

However, Stulz and Williamson (2003) pose a puzzling question: Given the overwhelming evidence that financial development is positively related to legal protection of investors, why is it that the degree of investor protection differs among countries? Why is it that in highly competitive international capital markets countries with poor protection of investor rights constantly loose out to countries with better protection of investor rights? Why do poor investor protection countries not simply improve their law to benefit from higher economic growth? Answering these questions, Stulz and Williamson (2003) point to cultural values. They argue that differences in cultural values should be taken seriously as a possible explanation for differences in investor protection.

A similarly puzzling empirical observation is that changing the law on books in a given country does not generally guarantee corporate governance and economic improvements (Licht et al., 2005). Interesting in this context are the astonishingly poor outcomes after legal reforms in several countries formerly under communist regimes during the 1990s. These legal reforms were designed to enhance investor protection in the newly established market economies but fell short of expectations (Berkowitz et al., 2002). In other countries, reforms towards curbing corruption and strengthening of rule of law also resulted in mixed results (Kaufman, 2004). It appears that an answer to these puzzling observations could well lie in better understanding of the relationship between culture and law. In fact, North (1990, p.36) observes that "the same formal rules and/or constitutions

[1] See La Porta et al. (1997) for financial development, Dyck and Zingales (2004) for voting premiums, La Porta et al. (2000) for dividend policies, La Porta et al. (2002) for firm valuation and La Porta et al. (1999) for ownership concentration.

imposed on different societies produce different outcomes," and generally acknowledges the relevance of informal constraints in economic interaction.

New institutional economics provides a theoretical background for this explanation. It views customs, traditions, norms and religion as the informal rules of the game (informal institutions) that are located at the top level (Level 1) of a stratified system of social analysis (Williamson, 2000). These informal institutions at the top level constrain the development of more specific institutions at lower levels: Level 2 represents formal rules of the game such as property rights and contract laws. Level 3 brings us to governance of contractual relations including, for example, the definition and enforcement of legal rights. Finally, at the lowest Level 4 we find resource allocation. This hierarchy leads us form the general informal institutional background of beliefs, norms, and values to the resource allocation at the micro level and implies that the prevailing informal institutions in a society serve as sources of motivation and justification for economic interaction (Greif, 1994). As a consequence, the more specific social institutions at the bottom have to be aligned with more general institutions at the top to be accepted by the society. Similarly, changes of the lower level institutions that are usually faster and more frequent have to be consistent with slowly changing more informal institutions at the top (Roland, 2004).

The general idea of deeper cultural roots of economic interaction is supported in several recent papers. Guiso et al. (2008) summarize the potential of the cultural based explanations and their contribution to our understanding of economic phenomena. They document that cultural hypotheses are economically important for fundamental economic issues like rates of savings or international trade. Cultural norms have started to appear also in finance literature. For example, Chui et al. (2008) show a strong link between individualism and returns on momentum strategies. Huang (2008), in turn shows that countries scoring high on uncertainty avoidance are associated with slower growth of informationally opaque industries. Stulz and Williamson (2003) and Licht et al. (2005, 2008) point to cultural roots of legal protection. They show that investor protection (as well as rule of law, corruption, and democratic accountability) in different countries reflect values prevailing in their cultures.

[3] Uncertainty means ambiguity, a diffuse feeling, without any probability attached to it. It describes a situation when anything can happen and one has no idea what. In contrast, risk reflects high probability of unfavourable outcome.

In this paper, we link culture to dividend policies. We propose that cultural norms affect agency costs and therefore explain differing dividend payout ratios. Previous literature suggests that culture formulates expectations of what is acceptable in a society. This then implies that cultural norms significantly affect behaviour of economic agents (March and Olsen, 1989). In this way, culture also affects agency relations and agency costs (Bebchuk, Fried and Walker, 2002). In other words, differing cultural dimensions may result in differing motivations and expectations of both managers and investors and therefore affect the relative costs and benefits of managerial opportunism such as shirking and perk consumption. In societies with cultural dimensions that amplify agency conflicts shareholders may require managers to pay out higher dividends to minimize the more pronounced agency costs. In contrast, in societies with cultural dimensions that encourage less severe agency conflicts (or lower perception of agency costs), be it through acceptance of rules or of personal power, or through group coordination, firms are allowed to pay lower dividends. In summary, our general hypothesis is that dividend policies across countries are not only a response to law on books but also a response to culturally determined motivations, expectations and demands of managers and investors reflected in agency differing agency costs. We postulate that cultural values embedded in societies affect the way in which firms in these societies distribute dividends and that cultural dimensions help explain the differences in dividend payouts across countries in addition to legal protection of investors.

Definitions of culture abound, but the common denominator of all the definitions is that culture represents shared values and beliefs (Licht et al., 2008). The important question, however, is how to measure cultural differences among countries. In this paper, we follow Licht et al. (2005) and borrow measures developed in cross-cultural psychology. These cultural measures build on a common postulate that all societies confront similar basic issues or problems when they come to regulate human activity but different cultures cope with these basic issues in different ways (Kluckhohn, 1962). Each society's preferred ways of dealing with the basic issues lie at the essence of its culture and naturally point to its key cultural dimensions. It is thus possible to characterize cultures of different societies by measuring the prevailing value emphases on the key dimensions (Licht et al., 2008).

We opt for the cultural dimensions defined by Hofstede (1980). On the basis of a large research project into differences in national culture among matched samples of business employees of IBM across more than 50 countries, Hofstede (1980) develops a

pioneering dimensional framework for characterizing culture. He identifies *five* independent dimensions of national culture differences that are empirically validated and widely acknowledged: *Individualism* versus *collectivism* is related to the integration of individuals into primary groups. *Power distance* refers to the different solutions to the basic problems of human inequality. *Uncertainty avoidance* is related to the level of stress in a society in the face of an unknown future. *Masculinity* versus *femininity* relates to the division of emotional roles between men and women. And finally, *long-term* versus *short-term orientation* is related to the choice of focus for people's efforts: the future or the present. For future reference, Table 1 provides a short summary of the cultural dimensions. As an illustration, Figure 1 shows cultural dimension for a selected number of countries. It shows that the US and UK are the most individualistic countries in contrast to China that is very collectivist. Power distance is the highest in China but shows interesting differences among European countries. France and Italy score relatively high whereas Germany, the US and UK low. Uncertainty avoidance is the highest in France and lowest in China. We propose that only three out of the five dimensions – individualism, power distance and uncertainty avoidance – are relevant for dividend payout strategies across countries.

[Please insert Table 1 about here]

Individualism versus *collectivism* describes the degree to which individuals are supposed to look after themselves as opposed to remain integrated into groups. High individualism scores indicate a society in which the ties between individuals are loose and decisions are taken based on individual needs. For example, in an individualist society such as the United States, people tend to shirk responsibility when tasks are assigned to a group but are quite assertive in achieving their own individual goals (Grabrenya, Wang and Latane, 1985). Conversely, low individualism scores (for example China) typify societies of a more collectivist nature that are characterised by closer ties between individuals, mutual responsibility, and decision-making based on what is best for the group. As a reward for unquestioning loyalty individuals in collectivist societies can expect their wider in-group to look after them.

Individualism legitimizes the vigorous pursuit of personal interests rather than deference to others' decisions and interests. This cultural dimension is compatible with managers (insiders) pursuing their own interests and maximizing their private benefits. We expect society's inclination to individualism to emphasize and exacerbate prevailing agency

relations increasing the necessity for such disciplining mechanisms as high dividend payouts. At the same time, individualism is compatible with giving power to investors and encouraging them to stand up and fight for their rights (Licht et al., 2005). As a result, investors demand disciplining mechanisms to restrict managerial self-dealing and expropriation which results in higher dividends payouts.

On the other side of the spectrum, in *collectivist* societies, collective interests prevail over individual interests of group members (Hofstede, 2001). The ego is inseparable from its social context. Managers (insiders) can be expected to assume a broad responsibility for all stakeholders in their firm. Investors are aware of this mechanism of collective orientation and therefore perceive agency conflicts as less severe. In collectivist societies, investors therefore find the disciplining function of high dividend payouts comparably less essential. Accordingly, we propose that firms in countries that score high on individualism tend to have higher dividend payouts than their counterparts in countries that score low on this dimension (collectivist countries).

Power distance measures the extent to which the less powerful members of a society expect and accept that power is distributed unequally. Low power distance societies (e.g. Israel, Sweden and Ireland) stress equality in power and wealth, and opportunity for everyone. In contrast, high power distance countries (as Mexico, the Arab countries and India) comprehend inequality as the basis of societal order where those in power emphasise their position and accentuate authority.

Power distance may have important agency cost implications. The power distance between a manager M and investors I in a hierarchy is the difference between the extent to which M can determine the behaviour of I and the extent to which I can determine the behaviour of M (Hofstede, 2001). Investors in countries that score low on power distance are less tolerant of inequality. One way in which they may attempt to minimize power and wealth differentials is to constrain the behaviour of managers through squeezing out high dividends. In these countries, status symbols and enjoying privileges are generally suspicious. As power is seen as something undesirable, those in power seek to underplay their position and authority. Therefore, corporate insiders in low power distance countries can be expected to accept demands for higher dividends as fair.

On the contrary, in societies that score high on power distance, investors accept that managers determine company payout policies and do not question the decision even when

dividends are low. High power distance societies accredit those in power more of the right to enjoy the (economic) benefits of being in power. The powerful are entitled to privileges and are expected to use their power to increase personal wealth. Agency costs are accepted and tolerated and, thus, the disciplining mechanism of high dividend payments is less important. We expect therefore that firms in countries that score high on power distance tend to pay lower dividends than firms in countries that score low on this cultural dimension.

Uncertainty avoidance describes the extent to which societies feel threatened by uncertain or unknown situations and therefore value believes and institutions that provide certainty and conformity. Individuals in high uncertainty-avoiding cultures, such as Greece, Portugal and Japan, tend to shun from ambiguous situations and prefer rules and stability. Low uncertainty avoidance rankings typify countries in which individuals more readily accept uncertainty and are less rule-oriented (for example Singapore, Denmark, Sweden). In these countries, both familiar and unfamiliar risks are accepted, and people commonly change jobs and start activities for which there are no rules.

Uncertainty about the future is a basic fact of human life. Organisations try to cope with uncertainty and ambiguity through technology, rules and rituals (Hofstede, 2001). In this way, rules help organizations reduce their inherent uncertainty resulting from the unpredictability of their members' and stakeholders' behaviour. Naturally, the stronger a culture's tendency to avoid uncertainty, the greater is its need for rules. The authority of rules should be, however, distinguished from the authority of persons. The first relates conceptually to uncertainty avoidance, the second to power distance. Also, we must not confuse uncertainty avoidance with risk avoidance.[3]

Control of uncertainty in organizations is often closely related to power. If a culture tolerates less uncertainty, those who control uncertainty are more powerful and their competencies are more clearly defined.[4] Clear-cut role definitions in an agency relationship ease the agency conflict and reduce the demand for disciplining (for example through dividends). On the other side of the spectrum, low uncertainty avoidance is compatible with readiness of agents to challenge each other. Investors are ready to challenge managers, for

[4] Uncertainty-avoiding cultures set rules and organizational structures that help them deal with ambiguity and make the behaviour of other parties to the agency relation more predictable. For example, countries scoring high on uncertainty avoidance (Germany, Japan, France, Belgium, Korea) mandate public companies to operate supervisory boards.

example, in public media, in general meetings, or in the courts. Dividend payouts serve then as a more subtle and flexible mechanism of challenging managerial opportunism. General openness to unforeseen events in the future promotes managerial self-dealing and deepens the agency conflict. Therefore, we expect higher dividends payouts in low uncertainty avoiding societies.

3 Data

The main source of our data is the COMPUSTAT Global Industrial/Commercial database, which provides data covering 24,764 publicly traded companies in 83 countries. Table 2, Panel A summarises the construction of our sample. Due to lags in reporting and data collection, we use the data for 2004. First, we restrict our sample to non-financial and non-utility firms, defined as firms with SIC codes outside the intervals of 4,900-4,949 and 6,000-6,999 and we exclude firms without a SIC code. Further, to be included in our sample, a firm must have non-missing values for dividends to common and preferred shareholders and net income for 2004, as well as available sales and exchange rate data for the period from 1999 to 2004. Further, we eliminate firms according to following requirements: firms trading in Luxembourg, firms listed in countries with mandatory dividend policies,[5] firms with negative net income or missing net income data, firms with negative dividends or whose dividends exceed sales, and finally, firms from countries for which we do not have scores on Hofstede's culture dimensions. This returns the basic sample of 6,982 companies from 41 countries.

[Please insert Table 2 about here]

Panel B of Table 2 shows the distribution of our sample across countries. Relative to the sample of 33 countries in La Porta et al. (2000), we cover a substantial set of additional data for transition economies (Czech Republic, Estonia, Hungary, Poland and Russia), China and India. These countries are not only of substantial relevance to the global economy but also add variety in terms of legal protection and cultural values.[6]

[5] These countries have legal requirements that a certain fraction of net income is paid out as dividends and they include Chile, Colombia, Brazil, Philippines, Ecuador, Uruguay, Peru, Venezuela.

[6] The inclusion of China into the sample is particularly interesting. Neither its legal nor financial system is well developed by existing standards, yet China has one of the fastest growing economies. Similarly, transition economies add an interesting angle to our analysis. These countries have in very short

Table 3 provides definitions and summarises our variables and Table 4 shows country level comparative statistics. Most of the variables are defined as in La Porta et al. (2000) to ensure comparability of our results. Our main variable of interest is the dividend payout ratio. Since our analysis involves cross-country comparisons with accounting data adhering to different accounting standards, we opt to use two alternative measures of the dividend payout ratio: dividend-to-earnings and dividends-to-sales ratio. The numerator of both measures is the total cash dividend paid to common and preferred shareholders. The denominator is net earnings and sales, respectively.

[Please insert Table 3 about here]

The dividend-to-earnings ratio is more commonly used (La Porta et al., 2000). It captures the essence of the payout policy in that it expresses relative distribution of net income between dividends and retained earnings. The problem is that net earnings may depend on a country's accounting conventions and may easily be manipulated which significantly impedes on the measure's comparability across countries. Moreover, diversion of resources may occur before earnings are reported and thus the dividend-to-earnings ratio may overestimate the share of true earnings that is paid out in form of dividends. As sales are far harder to manipulate or smooth through accounting practices and less likely to be subject to theft, dividend-to-sales ratio is a robustness check for unbiasedness of our dividend payout ratios. The trade-off, however, is that sales or turnover is a very rough measure of funds available for distribution to equity holders.

Investment opportunities may also be sensitive to cross-country differences. We want to capture investment opportunities across firms while accounting for inflation across countries. Therefore, for each firm we compute growth in sales over the five-year period from 1999 to 2004 and adjust it for inflation. As a first step, we convert the yearly sales figures to US dollars using average annual exchange rates. Then, using the US GDP deflator we get real sales figures and compute real sales growth that is adjusted for inflation and comparable across countries. Computation of the tax advantage of dividends is explained in detail in Appendix A1. In line with La Porta et al. (2000), we rely on industry-adjusted measures of the two dividend payout ratios and sales growth rates, whereby

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time imposed varying sets of legal rules on societies that for decades have lived under communist rule. We expect therefore that in these countries formal and informal are less well aligned creating worthwhile investigating dynamics for such microeconomic phenomena as agency relationships.

industry-adjustment is done on a worldwide rather than on a country basis.[7] We use these industry-adjusted variables to control for the effect that industry affiliation may significantly bias dividend policies.

To asses our central claim that cultural dimensions provide important additional explanatory power relative to legal origins, our analysis includes a number of proxies for the protection of minority shareholders around the world. They are all defined in detail in Table 3. The first variable is a common law dummy as previous research has shown that legal origin is an important determinant of countries' strategies for investor protection (Djankov et al. 2008; La Porta et al., 1997, 1998; La Porta et al., 2008). Our second measure of investor protection is the revised index of anti-director rights due to Djankov et al. (2008) that is based on laws and regulations applicable to publicly-traded firms and accounts for several conceptual ambiguities and outright mistakes in original La Porta et al.'s (1997, 1998) index. The third measure, the new anti-self-dealing index due to Djankov et al. (2008), should reflect protection against the ability of corporate insiders to divert corporate wealth for themselves. We perceive this measure as a very important alternative to our cultural dimensions in explaining the effect of insider opportunism on dividend policies because it should account for minority shareholder protection against self-dealing by controlling shareholders. We also consider the rule of law due to Kaufmann et al. (2007) which measures law enforcement across countries. We do so to make sure that we capture both the richness of legal protection on the books as well as their enforcement by court.

Finally, we include the Hofstede's (1980, 2001) cultural dimensions. Table 4, Panel A summarises the data by presenting the number of observations for each country as well as country medians and means of the variables outlined above. Panel B provides correlation coefficients for all the variables. It shows that on the country level common law, anti-director index and anti-self-dealing index are mutually highly correlated. Rule of law, however, is not significantly correlated with none of these three measures of investor protection. Among the cultural dimensions, individualism and power distance are negatively related. Uncertainty avoidance is orthogonal to both individualism and power distance. Interestingly, uncertainty avoidance is negatively related to all three investor protection measures and to lesser extent rule of law. This indicates that uncertainty avoidance may substitute for law on books and (to lower extend) also for enforcement of

[7] Table 3 presents a more detailed account of how these industry-adjusted measures are computed.

law. Our two measures of dividend pay-out are correlated to both legal measures as well as cultural dimensions.

[Please insert Table 4 about here]

4 Results

Table 5 presents results for our *cultural origins* hypothesis. The regression set up is very similar to La Porta et al. (2000) but we explain dividends by cultural dimensions rather than legal variables. The dependent variable is industry-adjusted dividend-to-earnings ratio. Panel A uses raw cultural dimensions whereas Panel B uses dummy variables that are set to one in case the individual dimension is above the sample country median and zero otherwise. This serves as a sensitivity check for the fact that a marginal increase in a dimension value may not be the same for low versus high values of the index. This should not matter so much when we compare low versus high values of the index using a dummy variable. In all regressions, we also control for growth prospects, tax advantage of dividends and country random effects.

When included as separate regressors, all three cultural dimensions have the predicted sign and are significant at the one percent level (except for high individualism in Panel B that is significant at the five percent level). This confirms our central hypotheses: First, firms in countries that score higher on individualism tend to pay higher dividends (Model 1) which confirms our conjecture that more assertive investors in individualistic cultures demand higher dividends to limit managerial opportunism. Second, higher power distance is associated with lower dividend payouts (Model 2). We propose that this is because investors in countries which accept inequalities between society members also accept that managers distribute dividends to their (managers') liking and do not probe these decisions by higher dividends. Finally, Model 3 shows that higher uncertainty avoidance is associated with lower dividend payments. This is is line with our hypothesis that high uncertainty avoiding cultures have rules and structures in place that may weaken managerial opportunism and investors do not question managerial decisions by demanding higher dividends.

Model 4 includes all three cultural dimensions together. In interpreting these results, we have to acknowledge correlations among the variables. Panel B of Table 4 shows that individualism and power distance are highly correlated (countries that score higher on

individualism tend to score lower on power distance) whereas uncertainty avoidance is orthogonal to both individualism and power distance. This is also reflected in the results of Model 4: individualism becomes statistically insignificant and power distance loses some significance, while uncertainty avoidance remains significant at the one percent level. If we leave out individualism, the statistical significance of power distance increases to the one percent level but its economic significance is still lower relative to uncertainty avoidance. In short, the results indicate that individualism, power distance and uncertainty avoidance are all significantly correlated with dividend payouts across countries in our data set. The results also indicate that uncertainty avoidance has the highest explanatory power while individualism the lowest.

[Please insert Table 5 about here]

As a second step, we want to compare the explanatory power of the cultural origins versus legal origins proposed in La Porta et al. (2000). Table 6 replicates La Porta et al.'s (2000) results with common law dummy, revised anti-director rights index, anti-self-dealing index due to Djankov et al. (2008) and rule of law as explanatory variables. Again, Panel A uses the raw indices whereas Panel B relies on dummy variables for high index scores. The results show that the coefficients for revised anti-director rights index and rule of law in Models 6 and 8 are positive and statistically significant at the ten and one percent level, respectively. This is in line with the dividend outcome model: higher protection of minority shareholders and higher enforcement of law are associated with higher dividend payments. In contrast, the coefficients for common law and the new anti-self-dealing index in Models 5 and 7 are not significant. The explanatory power of anti-director rights index and rule of law remains unchanged in Model 9 when they explain dividend payout together. Note that the correlation coefficient between these two variables is relatively small and insignificant (see Panel B of Table 4). Interestingly, additional inclusion of common law in Model 10 indicates that the positive effect of anti-director rights index is mitigated substantially in common law countries.

[Please insert Table 6 about here]

Once we analyze both *legal* and *cultural* origins together in Table 7, the explanatory power of the legal indices becomes weaker while the explanatory power of the cultural dimension remains relatively unchanged. In Models 11 to 14, we include all three cultural

dimensions and one legal protection variable at a time. Model 15 then combines common law legal origin, anti-director index and rule of law together with the three cultural dimensions. The explanatory power of all the legal measures suffers quite significantly once we control for the cultural dimensions. In Panel A, both the anti-director index and rule of law become insignificant. Moreover, the common law dummy and self-dealing index show signs opposite to the La Porta et al.'s (2000) assertion indicating that after controlling for culture common law countries and/or countries that protect investors against self-dealing of insiders pay lower dividends. The results in Panel B are slightly more favourable for the anti-director index that is positive and significant at the one percent level. However, the common law and self-dealing dummies are still negative and highly statistically significant. In short, these results indicate that the explanatory power of legal origin variables drops significantly once we control for the effect of culture. Especially, rule of law loses all its explanatory power once we control for culture. Anti-director rights index remains significant in Model 15, but the common law dummy becomes more negative and more significant. In fact, the positive effect of anti-director rights is fully cancelled out in common law countries. It is only the civil law countries that increase dividends with higher anti-director rights. In this context, it is perhaps important to note that rule of law is highly correlated with individualism and power distance and the other three legal origin variables (common law dummy, anti-director rights index and anti-self-dealing index) are highly correlated with uncertainty avoidance.

The explanatory power of cultural dimensions remains relatively unchanged. The coefficient for uncertainty avoidance is persistently negative and statistically significant at the one percent level. The results for power distance are slightly weaker in Panel A but more encouraging for the dummy variable specifications in Panel B. Individualism with the lowest predictive power of the three cultural measures, is significant with the predicted sign only in Model 11 and 15 in Panel A of Table 7.

[Please insert Table 7 about here]

The results for industry-adjusted dividends-to-sales ratio in Table 8 are slightly less significant, especially for individualism and power distance. Nevertheless, uncertainty avoidance remains a persistently significant predictor of dividend strategies around the world despite the dividend-to-sales' being a noisier measure of dividend payouts. The anti-

director rights index is significant when included separately but its impact is again lowered by the common law dummy when all variables are included together.

[Please insert Table 8 about here]

4.1 Robustness checks

As a first robustness test we check whether the regression results are not driven predominantly by firms from Japan and the United States that comprise a majority in our sample. Re-estimating all regressions without firms from Japan and the US, we confirm that the results are an even more impressively in favour of our hypotheses.

The second and related concern is that we might have selected a particular year during national or international business cycles that is in some sense special but the results would not hold for other years. So, we re-estimate all regressions using 2002 and 2003 values. Additionally, we re-estimate the 2002, 2003 and 2004 results using growth rates in assets and earnings to check for robustness of our growth measure based on sales. All these results are very similar in both sign and significance to the results reported in Tables 5 to 8..

The third point is that our cultural dimensions might simply proxy for some other yet unobserved country-specific heterogeneity as is, for example, heterogeneity in debt reliance across countries. It might be the case that lower dividend payout ratios of firms in some countries simply reflect their greater reliance on debt financing. We control for this possibility by including the ratio of credit from deposit taking financial institutions to private sector relative to GDP (due to Djankov, McLiesh and Shleifer, 2005), in all our regressions. Private credit enters insignificantly in most specifications and does not materially affect the statistical significance of the cultural dimensions.

Finally, we are concerned with reverse causality between cultural dimensions and legal measures and between cultural dimensions and dividends. In order for investor protection rules to affect widespread beliefs about what is right and desirable (culture), they must either be central and salient or, alternatively, they must influence people's day-to-day lives. Given the way we operationalize culture, only a negligible influence from La Porta et al.'s (2000) indices to cultural orientations seems plausible. The reasons are twofold: First, Hofstede collects work related values of IBM employees as opposed to value determinants of investment professionals. The data on culture value dimensions therefore originate from respondents who are unlikely to be particularly familiar with investor protection legislation

and whose daily practices are unlikely to be affected by such rules. Second, Hofstede (2001:145) and other scholars (Licht et al., 2005; North, 1990) underpin the persistence of national cultural fundamentals even amid the frequent change in legal rules and regulation: "The [uncertainty avoidance] index has been remarkably stable over the past decades: Although uncertainty avoidance levels do fluctuate over time, the differences between countries on which the index was based are robust. Uncertainty avoidance differences are not expected to disappear in the foreseeable future." This persistency of cultural dimensions leads us to believe that source of causality for our correlations is embedded in culture which then influences both legal rules and dividend policies.

5 Conclusions

In this paper, we propose that culture is important in determining dividend payouts of firms across the world. We believe that the link between cultural dimensions and dividends goes through culture affecting agency problems and their costs and therefore affecting the use of dividends as disciplining tools. Societies with cultures that diminish agency costs tend to pay lower dividends and so dividends serve their disciplining role to a lesser extent. Theoretically, we rely on new institutional economics that suggests that informal institution form a basis that eventually affects other levels of economic and social interaction including resource allocation.

Our main results based on a data set of 6,982 firms in 41 countries are twofold. First, we show that culture indeed matters in explaining dividend policies of firms around the world. Firms in countries that score high on individualism and low on power distance and uncertainty avoidance pay relatively higher dividends. The effect of uncertainty avoidance seems to be the highest whereas individualism has the lowest effect among the three cultural dimensions. Our second main result is that *cultural* origins have higher explanatory power relative to *legal* origins.

The evidence presented in this paper has two important implications. First, it highlights the importance of culture in affecting agency costs and therefore also corporate governance and capital markets across the world. This might mean that not controlling for the impact of culture or informal institutions in general may significantly bias any analysis of governance mechanisms around the world. Second, our findings indirectly enrich understanding of the effectiveness of new legal initiatives and add to the ongoing

discussion on global convergence in corporate governance (Coffee, 1999). Our results suggest that the potential of legal initiatives to reduce agency costs is at least partly determined and therefore limited by country-specific cultural effects. Politicians, therefore, should be aware that convergence of corporate governance across countries through legal and regulatory convergence is likely to be constrained by cross-country differences in deeper layers of the society.

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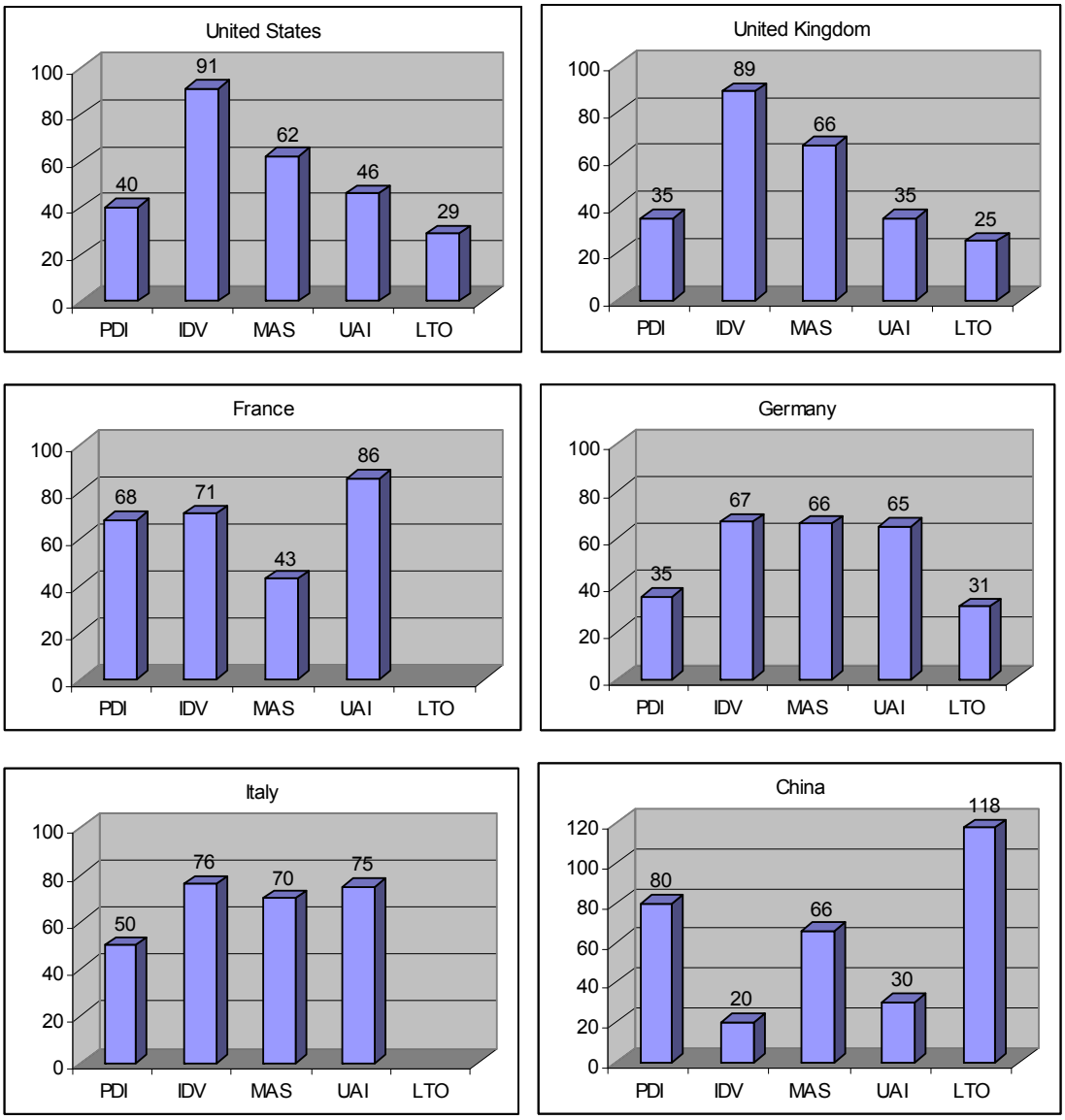
FIGURE 1: CULTURAL DIMENSIONS ACROSS COUTRIES



Note: *PDI – Power Distance, IDV – Individualism vs. Collectivism, UAI – Uncertainty Avoidance, MAS – Masculinity vs. Femeninity, LTO – Long-term vs. short.-term orientation, Source: Hofstede (2001)*

TABLE 1: CULTURAL DIMENSIONS

Dimension	Definition
Individualism vs. collectivism	Relates to the integration of individuals into primary groups
Power distance	Refers to the different solutions to the basic problems of human inequality
Uncertainty avoidance	Relates to the level of stress in a society in the face of an unknown future
Masculinity vs. femininity	Relates to the division of emotional roles between men and women
Long-term versus short-term orientation	Relates to the choice of focus for people's efforts: the future or the present

TABLE 2: CONSTRUCTION OF THE SAMPLE

Panel A: Firms in the Sample	
19,615	COMPUSTAT Global Industrial/ Commercial Sample (June 2006 version)
-7,253	Missing dividend to common and preferred shareholder data for 2004
-274	Financial firms (primary and/or secondary SIC between 6,000 and 6,999)
-332	Utilities firms (primary and/or secondary SIC between 4,900 and 4,949)
-2,310	Missing sales and/or exchange rate data for 1999-2004
-12	Firms listed in Luxembourg's stock exchange
-246	Firms listed in stock exchanges of countries with mandatory dividend policies
-1,978	Negative and missing net income before extraordinary items in 2004
-18	Dividends exceed sales/ negative dividends
-210	Firms from countries that do not meet data requirements
6,982	Basic sample
Panel B: Countries in the sample	
83	Countries in COMPUSTAT Global Industrial/ Commercial Sample
-20	Countries of which firms do not meet data requirements
-1	Luxembourg
-9	Mandatory dividend countries
-12	Countries that do no meet data requirements
41	Countries in sample

TABLE 3: VARIABLE DEFINITIONS

This table describes the variables collected for the 41 countries included in this study.

Variable	Description / Source
Dividend-to-earnings	Total cash dividends paid to common and preferred shareholders as a percentage of earnings in fiscal year 2004. Earnings are measured after taxes and interest but before extraordinary items. *Source*: COMPUSTAT Global Industrial/ Commercial database.
Dividend-to-sales	Total cash dividends paid to common and preferred shareholders as a percentage of sales in fiscal year 2004. Sales are net sales. *Source*: COMPUSTAT Global Industrial/ Commercial database.
industry adjustment for dividend-to-earnings and dividend-to-sales	We first find for each industry in each country the median of the dividend-to-earnings (dividend-to-sales) ratio. Then for each industry in the sample we define the world median as the median of industry country medians. Finally, we calculate the difference between the firm's dividend-to-earnings (dividend-to-sales) and the world median dividend-to-earnings (dividend-to-sales) for the firm's industry. The SIC division structure holds as reference to derive the following seven broad industries: (1) agriculture, (2) mining, (3) construction, (4) manufacturing, (5) transportation and communications, (6) wholesale and retail trade, (7) services and miscellaneous. *Source*: COMPUSTAT Global Industrial/ Commercial database.
Sales growth	Average annual percentage growth in real (net) sales over the period 1999-2004. Before computing sales growth, we translate net sales in local currency into U.S. dollars using the average annual exchange rates for individual years and currencies. Net sales in U.S. dollars are translated into real terms using the U.S. GNP deflator. *Source*: COMPUSTAT Global Industrial/ Commercial, COMPUSTAT Global Currency, and U.S. Department of Commerce, Bureau of Economic Analysis.
industry adjustment for sales growth	We first find for each industry in each country the median of sales growth. Then for each industry in the sample we define the world median as the median of industry-country medians. Finally, we industry adjusted sales growth as the difference between the firm's sales growth and the world median for the firm's corresponding industry. The SIC division structure holds as reference to derive the following seven broad industries: (1) agriculture, (2) mining, (3) construction, (4) manufacturing, (5) transportation and communications, (6) wholesale and retail trade, (7) services and miscellaneous. *Source*: COMPUSTAT Global Industrial/ Commercial.
Sales growth decile	Rank of decile for industry adjusted sales growth. Firms are ranked into 10 equal-size groups. Ranges from 1-10 in ascending order.
Dividend tax advantage	The ratio of the value, to an outside investor, of US$1 distributed as dividend income to the value of US$1 received in the form of capital gains when kept inside the firm as retained earnings. The computation of this ratio is detailed in Appendix A1. *Source*: OECD Tax Database, Organisation for Economic Co-operation and Development, 2000-2007, Worldwide Tax Summaries, PriceWaterhouseCoopers, 2006, Corporate Tax Rates Survey, KPMG, 2004, Tax Guides, Deloitte, 2004-2007, Internationale Steuern im Vergleich, Monatsbericht des BMF, January 2005.
Common law	Equals one if the origin of the Company Law or Commercial Code of the country is the English Common Law and zero otherwise. *Source*: Djankov et al. (2008).
Anti-director rights index (revised)	It is formed by adding one when: (1) the law explicitly mandates or sets as a default rule that: (a) proxy solicitations paid by the company include a proxy form allowing shareholders to vote on the items on the agenda; or (b) a proxy form to vote on the items on the agenda accompanies notice to the meeting; or (c) shareholders vote by mail on the items on the agenda; (2) shareholders

	can not be required to deposit with the company or another firm any of their shares prior to a general shareholders meeting; (3) if the law explicitly mandates or sets as a default rule cumulative voting for candidates to the board of directors or supervisory boards and a mechanism of proportional representation; (4) if minority shareholders may challenge a resolution of both the shareholders and the board if it is unfair, prejudicial, oppressive, or abusive; (5) when the law or listing rules explicitly mandate or set as a default rule that shareholders hold the first opportunity to buy new issues of stock; and (6) when minimum percentage of share capital [or voting power] that the law mandates or sets as a default rule as entitling a single shareholder to call a shareholders' meeting is less than or equal to 10 percent. *Source*: Djankov et al. (2008).
High anti-director rights	Equals one if the revised anti-director rights index is larger than 3.5 (the sample country median) and zero otherwise.
Anti-self-dealing index	Numerical measure of legal protection of minority shareholders against self-dealing by corporate insiders. Average of ex-ante and ex-post private control of self-dealing. Considers a fixed self-dealing transaction, and then measure the hurdles that the controlling shareholder must jump in order to get away with this transaction. Measures the intensity of regulation of self-dealing along a variety of dimensions, covering both public and private enforcement mechanisms, such as disclosure, approval, and litigation. *Source*: Djankov et al. (2008)
High anti-self-dealing	Equals one if the anti-self-dealing index is larger than 0.46 (the sample country median) and zero otherwise.
Rule of law	Measures the extent to which governmental authority is legitimately exercised only in accordance with written, publicly disclosed laws adopted and enforced in accordance with established procedure. The principle is intended to be a safeguard against arbitrary governance. Rule of law includes agents' perceptions of the incidence of both violent and non-violent crime, the effectiveness and predictability of the judiciary, and the enforceability of contracts. The data averages rule of law estimates for the year 2004. *Source*: Kaufmann, D., Kraay, A., and Mastruzzi M. (2007) "Governance Matters VI: Governance Indicators for 1996-2006", World Bank Policy Research.
High rule of law	Equals one if rule of law is larger than 1.19 (the sample country median) and zero otherwise.
High individualism	Equals one if a firm's country of origin scores above 54 (the sample median) on the individualism/ collectivism dimension, and zero otherwise. *Source*: Hofstede (1980, 2001).
High power distance	Equals one if a firm's country of origin scores above 55 (the sample median) on the power distance dimension, and zero otherwise. *Source*: Hofstede (1980, 2001).
High uncertainty avoidance	Equals one if a firm's country of origin scores above 64 (the sample median) on the uncertainty avoidance dimension, and zero otherwise. *Source*: Hofstede (1980, 2001).

TABLE 4: DESCRIPTIVE STATISTICS

Panel A presents number of observations, legal indices values, cultural value dimension scores, and mean dividend-to-earnings and dividend-to-sales ratios for each country in our sample. Panel B reports country level correlation coefficients among all variables. For variable definitions please refer to Table 3. ***, **, and * refer to significance at the one, five and ten percent level.

Panel A: country level data	Number of firms	Common law	Anti-director rights index	Anti-self-dealing index	Rule of law	Indivi-dualism	Power distance	Uncertainty avoidance	Mean dividend-to- earnings ratio	Mean dividend-to- sales ratio
Argentina	11	0	2.0	0.34	-0.71	46	49	86	0.023	0.002
Australia	152	1	4.0	0.76	1.82	90	36	51	0.160	0.013
Austria	8	0	2.5	0.21	1.81	55	11	70	0.056	0.006
Belgium	23	0	3.0	0.54	1.51	75	65	94	0.052	0.012
Canada	211	1	4.0	0.64	1.80	80	39	48	0.239	0.018
China	59	0	1.0	0.76	-0.39	20	80	30	0.259	0.036
Czech Republic	2	0	4.0	0.33	0.70	58	35	74	0.000	0.000
Denmark	70	0	4.0	0.46	1.97	74	18	23	0.539	0.022
Egypt	1	0	2.0	0.20	-0.02	27	64	52	0.000	0.000
Finland	39	0	3.5	0.46	1.93	63	33	59	0.549	0.028
France	56	0	3.5	0.38	1.41	71	68	86	0.021	0.001
Germany	73	0	3.5	0.28	1.73	67	35	65	0.427	0.008
Hong Kong	79	1	5.0	0.96	1.37	25	68	29	0.250	0.044
Hungary	1	0	2.0	0.18	0.83	80	46	82	0.000	0.000
India	80	1	5.0	0.58	0.00	48	77	40	0.312	0.030
Indonesia	91	0	4.0	0.65	-0.84	14	78	48	0.163	0.015
Ireland	14	1	5.0	0.79	1.58	70	28	35	0.317	0.016
Israel	14	1	4.0	0.73	0.75	54	13	81	0.274	0.020
Italy	6	0	2.0	0.42	0.65	76	50	75	0.251	0.005
Japan	2,518	0	4.5	0.50	1.34	46	54	92	0.457	0.009
Korea	135	0	4.5	0.47	0.70	18	60	85	0.215	0.011
Malaysia	312	1	5.0	0.95	0.55	26	104	36	0.272	0.031
Mexico	48	0	3.0	0.17	-0.40	30	81	82	0.087	0.008
Morocco	3	0	2.0	0.56	0.04	46	70	68	0.000	0.000

Netherlands	61	0	2.5	0.20	1.77	80	38	53	0.739	0.022
New Zealand	33	1	4.0	0.95	1.92	79	22	49	0.059	0.005
Norway	44	0	3.5	0.42	1.97	69	31	50	0.599	0.058
Pakistan	5	1	4.0	0.41	-0.86	14	55	70	0.244	0.019
Panama	2	0	2.0	0.16	-0.09	11	95	86	0.114	0.022
Poland	5	0	2.0	0.29	0.42	60	68	93	0.058	0.005
Portugal	3	0	2.5	0.44	1.19	27	63	104	0.254	0.031
Singapore	161	1	5.0	1.00	1.82	20	74	8	0.206	0.017
South Africa	43	1	5.0	0.81	0.15	65	49	49	0.271	0.026
Spain	4	0	5.0	0.37	1.20	51	57	86	0.111	0.007
Sweden	139	0	3.5	0.33	1.87	71	31	29	0.491	0.030
Switzerland	52	0	3.0	0.27	1.98	68	34	58	0.245	0.018
Taiwan	130	0	3.0	0.56	0.81	17	58	69	0.001	0.000
Thailand	188	1	4.0	0.81	0.05	20	64	64	0.045	0.004
Turkey	4	0	3.0	0.43	0.09	37	66	85	0.000	0.000
United Kingdom	415	1	5.0	0.95	1.73	89	35	35	1.467	0.034
United States	1,687	1	3.0	0.65	1.48	91	40	46	0.234	0.012
Average:		0.34	3.5	0.52	0.92	52	52	62	0.245	0.016
Median		0.00	3.5	0.46	1.19	54	55	64	0.234	0.013

Panel B: correlation coefficients	Common law	Anti-director index	Anti-self-dealing index	Rule of law	Indivi-dualism	Power distance	Uncertainty avoidance	Mean dividend-to- earnings ratio	Mean dividend-to- sales ratio
Common law		0.621***	0.734***	0.043	0.093	-0.065	-0.498***	0.142	0.219
Anti-director rights index			0.574***	0.253	0.030	-0.092	-0.385**	0.304**	0.268*
Anti-self-dealing index				0.129	-0.036	0.072	-0.565***	0.220	0.342**
Rule of law					0.646***	-0.611***	-0.271*	0.422***	0.251
Individualism						-0.669***	-0.104	0.355**	-0.007
Power distance							0.115	-0.317**	-0.001
Uncertainty avoidance								-0.407***	-0.498***
Mean dividend-to- earnings ratio									0.614***

TABLE 5: CULTURAL DETERMINANTS OF DIVIDENDS

This table presents firm level regression results for the cross section of 41 countries. The dependent variable is the industry-adjusted dividend-to-earnings ratio. We include country random effects and correct for outliers by dropping the highest and lowest 1% of observations of the dependent variable. In Panel A, we use raw indices for individualism, power distance and uncertainty avoidance, whereas in Panel B we transform the indices into dummy variables that are set to one in case the individual index is above the sample world median and zero otherwise. All variables are described in Table 3. Standard errors are shown in parentheses. ***, **, and * denote significance at the one, five and ten percent level.

Variable	Model 1	Model 2	Model 3	Model 4
Panel A				
Individualism	0.002***			0.001
	(0.001)			(0.001)
Power distance		-0.002***		-0.002*
		(0.001)		(0.001)
Uncertainty avoidance			-0.003***	-0.003***
			(0.001)	(0.001)
Sales growth decile	-0.015***	-0.015***	-0.015***	-0.015***
	(0.001)	(0.001)	(0.001)	(0.001)
Tax advantage	0.107	0.112	0.033	0.110
	(0.140)	(0.134)	(0.117)	(0.111)
Constant	0.108	0.326***	0.420***	0.406***
	(0.131)	(0.113)	(0.105)	(0.131)
χ^2	112.44	115.05	123.37	139.68
Panel B				
High individualism	0.093**			-0.043
	(0.037)			(0.046)
High power distance		-0.130***		-0.112**
		(0.033)		(0.047)
High uncertainty avoidance			-0.161***	-0.126***
			(0.026)	(0.028)
Sales growth decile	-0.015***	-0.015***	-0.016***	-0.016***
	(0.001)	(0.001)	(0.001)	(0.001)
Tax advantage	0.112	0.134	0.061	0.107
	(0.141)	(0.129)	(0.099)	(0.099)
Constant	0.151	0.118	0.146*	0.097***
	(0.124)	(0.114)	(0.087)	(0.089)
χ^2	112.25	121.47	145.35	156.59

TABLE 6: LEGAL DETERMINANTS OF DIVIDENDS: DIVIDENDS-TO-EARNING RATIO

This table presents firm level regression results for the cross section of 41 countries. The dependent variable is the industry-adjusted dividend-to-earnings ratio. We include country random effects and correct for outliers by dropping the highest and lowest 1% of observations of the dependent variable. In Panel A, we use raw indices for revised anti-director index, anti-self-dealing index and rule of law, whereas in Panel B we transform the indices into dummy variables that are set to one in case the individual index is above the sample world median and zero otherwise. All variables are described in Table 3. Standard errors are shown in parentheses. ***, **, and * refer to significance at the one, five and ten percent level.

Variable	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
Panel A						
Common law	-0.013					-0.080**
	(0.039)					(0.036)
Anti-director rights index		0.032*			0.024*	0.047***
		(0.017)			(0.014)	(0.018)
Anti-self-dealing index			0.007			
			(0.076)			
Rule of law				0.062***	0.058***	0.057***
				(0.017)	(0.016)	(0.017)
Sales growth decile	-0.015***	-0.015***	-0.015***	-0.015***	-0.015***	-0.015***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Tax advantage	0.060	0.023	0.048	0.085	0.059	0.101
	(0.146)	(0.131)	(0.143)	(0.114)	(0.111)	(0.115)
Constant	0.248**	0.154	0.249**	0.159	0.094	0.009
	(0.121)	(0.122)	(0.120)	(0.100)	(0.105)	(0.114)
χ^2	105.81	109.65	105.78	120.26	124.11	128.26
Panel B						
Common law						-0.058*
						(0.030)
High anti-director rights		0.105***			0.090***	0.112***
		(0.035)			(0.030)	(0.033)
High anti-self-dealing			-0.027			
			(0.039)			
High rule of law				0.096***	0.084***	0.082***
				(0.031)	(0.028)	(0.029)
Sales growth decile		-0.015***	-0.015***	-0.015***	-0.015***	-0.015***
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Tax advantage		0.011	0.050	0.040	0.002	0.040
		(0.122)	(0.143)	(0.118)	(0.106)	(0.109)
Constant		0.212**	0.269**	0.204**	0.180**	0.159
		(0.104)	(0.124)	(0.102)	(0.092)	(0.094)*
χ^2		115.50	106.21	116.10	128.04	130.94

TABLE 7: THE ADDITIONAL EXPLANATORY POWER OF CULTURAL DETERMINANTS

This table presents firm level regression results for the cross section of 41 countries. The dependent variable is the industry-adjusted dividend-to-earnings ratio. We include country random effects and correct for outliers by dropping the highest and lowest 1% of observations of the dependent variable. In Panel A, we use raw legal indices and cultural value dimensions, whereas in Panel B we transform the indices into dummy variables that are set to one in case the individual index is above the sample world median and zero otherwise. All variables are described in Table 3. Standard errors are shown in parentheses. ***, **, and * denote significance at the one, five and ten percent level.

Variable	Model 11	Model 12	Model 13	Model 14	Model 15
Panel A					
Common law	-0.112***				-0.217***
	(0.034)				(0.038)
Anti-dir. rights index		0.021			0.079***
		(0.015)			(0.017)
Anti-self-dealing index			-0.153**		
			(0.075)		
Rule of law				0.011	-0.036
				(0.023)	(0.023)
Individualism	0.001*	0.001	0.001	0.000	0.003***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Power distance	-0.001	-0.002**	-0.001	-0.002*	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Uncertainty avoidance	-0.004***	-0.002***	-0.004***	-0.003***	-0.004***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Sales growth decile	-0.015***	-0.015***	-0.015***	-0.015***	-0.015***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Tax advantage	0.206*	0.095	0.164	0.108	0.251**
	(0.115)	(0.110)	(0.117)	(0.110)	(0.107)
Constant	0.364***	0.326**	0.483***	0.390***	0.066
	(0.132)	(0.141)	(0.140)	(0.135)	(0.141)
χ^2	150.33	142.52	141.61	140.02	180.13
Panel B					
Common law	-0.118***				-0.152***
	(0.028)				(0.018)
High anti-dir. rights		0.087***			0.138***
		(0.024)			(0.017)
High anti-self-dealing			-0.072**		
			(0.031)		
Rule of law				0.046	0.019
				(0.032)	(0.022)
High individualism	-0.073	-0.046	-0.067	-0.080	-0.106***
	(0.047)	(0.042)	(0.049)	(0.051)	(0.040)
High power distance	-0.133***	-0.119***	-0.103**	-0.119***	-0.166***
	(0.048)	(0.044)	(0.049)	(0.046)	(0.038)
High uncertainty avoid.	-0.182***	-0.105***	-0.153***	-0.119***	-0.168***
	(0.031)	(0.025)	(0.031)	(0.027)	(0.021)
Sales growth decile	-0.015***	-0.016***	-0.015***	-0.015***	-0.016***
	(0.001)	(0.002)	(0.001)	(0.002)	(0.002)
Tax advantage	0.210**	0.076	0.089	0.073	0.213***
	(0.102)	(0.087)	(0.103)	(0.097)	(0.075)
Constant	0.034	0.071	0.161*	0.117	-0.043
	(0.090)	(0.079)	(0.097)	(0.086)	(0.067)
χ^2	175.00	183.66	158.42	163.26	324.32

TABLE 8: RESULTS FOR DIVIDEND-TO-SALES RATIO

This table presents firm level regression results for the cross section of 41 countries. The dependent variable is the industry-adjusted dividend-to-sales ratio multiplied by 100. We include country random effects and correct for outliers by dropping the highest and lowest 1% of observations of the dependent variable. In Panel A, we use raw legal indices and cultural value dimensions, whereas in Panel B we transform the indices into dummy variables that are set to one in case the individual index is above the sample world median and zero otherwise. All variables are described in Table 3. Standard errors are shown in parentheses. ***, **, and * denote significance at the one, five and ten percent level.

Variable	Model 16	Model 17	Model 18	Model 19	Model 20	Model 22	Model 23	Model 24	Model 26
Panel A									
Common law	0.226								-0.710**
	(0.255)								(0.321)
Anti-dir. rights index		0.231**							0.266*
		(0.117)							(0.144)
Anti-self-dealing index			0.658						
			(0.499)						
Rule of law				0.204					-0.106
				(0.135)					(0.192)
Individualism					0.002			0.003	0.008
					(0.005)			(0.006)	(0.007)
Power distance						-0.001		0.002	0.003
						(0.006)		(0.007)	(0.007)
Uncertainty avoidance							-0.022***	-0.022***	-0.026***
							(0.004)	(0.005)	(0.006)
Sales growth decile	-0.026***	-0.026***	-0.027***	-0.026***	-0.026***	-0.026***	-0.026***	-0.026***	-0.026***
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
Tax advantage	0.717	0.683	0.609	0.993	0.817	0.767	0.700	0.750	1.085
	(0.950)	(0.902)	(0.928)	(0.909)	(0.985)	(0.985)	(0.771)	(0.825)	(0.856)
Constant	0.677	-0.050	0.488	0.334	0.565	0.799	2.073***	1.793*	0.851
	(0.790)	(0.843)	(0.781)	(0.793)	(0.918)	(0.828)	(0.694)	(0.964)	(1.122)
χ^2	12.84	16.00	13.82	14.37	12.04	11.85	37.66	35.36	40.11

Table 8 continued…

	Model 16	Model 17	Model 18	Model 19	Model 20	Model 22	Model 23	Model 24	Model 26
Panel B									
Common law									-0.561***
									(0.196)
High anti-dir. index		0.536**							0.426**
		(0.255)							(0.195)
High self-deal. index			0.067						
			(0.256)						
Rule of law				0.400*					-0.080
				(0.229)					(0.228)
High individualism					0.209			-0.193	-0.264
					(0.260)			(0.289)	(0.328)
High power distance						-0.326		-0.014	-0.108
						(0.257)		(0.297)	(0.292)
High uncertainty avoidance							-1.262***	-1.317***	-1.490***
							(0.166)	(0.188)	(0.203)
Sales growth		-0.026***	-0.026***	-0.026***	-0.026****	-0.026***	-0.026***	-0.026***	-0.026***
		(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
Tax advantage		0.673	0.846	0.818	0.879	0.947	0.842	0.697	1.020
		(0.904)	(0.943)	(0.858)	(0.983)	(0.975)	(0.624)	(0.662)	(0.667)
Constant		0.447	0.621	0.461	0.532	0.422	-0.076	0.107	-0.291
		(0.766)	(0.813)	(0.735)	(0.863)	(0.852)	(0.544)	(0.591)	(0.590)
χ^2		16.51	12.11	15.20	12.46	13.43	69.94	67.10	81.09

TABLE A1: CONSTRUCTION OF THE TAX ADVANTAGE OF DIVIDENDS

This table gives a fiscal year 2004 overview of the raw data and the calculations employed to derive the dividend tax advantage variable. Dividend tax advantage is the ratio of the value, to an outside investor, of US$1 distributed as dividend income to the value of US$1 received in the form of capital gains when kept inside the firm as retained earnings. For countries with no explicit 2004 tax data, we use most recent tax information. Consistent with La Porta et al. (2000) we use the tax rates faced by local residents who acquire minority stakes in publicly traded securities and hold their investments long enough to qualify for long-term capital gains tax. We combine federal and local taxes whenever possible. Furthermore, we follow Poterba's (1987) assumption that the effective rate on capital gains is equivalent to one-fourth of the nominal rate. In order to compute the tax parameter, we follow La Porta et al. (2000) and use the criteria proposed by King (1977) to group the tax systems of the countries in the sample in three broad categories: the Classical System, the Two-Rate System, and the Imputation system (see La Porta et al. (2000) and the OECD Tax Database for a more detailed description).

	(A)	(B)	(C)	(D)	(E)	(G)	(H)	
	Corporate Tax		Personal Tax					
Country	Undistributed Profits	Distributed Profits	Capital Gains	Dividends	Imputation Rate	Value of $1 in Dividends (1-B+E)*(1-D)	Value of $1 in Capital Gains (1-A)* (1-C/4)	Dividend Tax Preference (G/H)
Argentina	0.35	0.35	0.00	0.00	0.00	0.65	0.65	1.00
Australia[1]	0.30	0.30	0.24	0.49	0.30	0.52	0.66	0.78
Austria	0.34	0.34	0.00	0.25	0.00	0.50	0.66	0.75
Belgium[2]	0.34	0.34	0.00	0.15	0.00	0.56	0.66	0.85
Canada[3]	0.36	0.36	0.24	0.46	0.21	0.46	0.60	0.76
China[4]	0.33	0.33	0.20	0.20	0.00	0.54	0.64	0.84
Czech Republic	0.28	0.28	0.00	0.15	0.00	0.61	0.72	0.85
Denmark	0.30	0.30	0.43	0.43	0.00	0.40	0.62	0.64
Egypt	0.40	0.40	0.00	0.00	0.00	0.60	0.60	1.00
Finland	0.29	0.29	0.29	0.29	0.29	0.71	0.66	1.08
France[5]	0.35	0.35	0.27	0.56	0.33	0.43	0.60	0.72
Germany[6]	0.40	0.40	0.00	0.24	0.00	0.46	0.60	0.76
Hong Kong	0.18	0.18	0.00	0.00	0.00	0.83	0.83	1.00
Hungary[7]	0.16	0.16	0.00	0.35	0.00	0.55	0.84	0.65
India[8]	0.36	0.44	0.00	0.00	0.00	0.56	0.64	0.87
Indonesia[9]	0.30	0.30	0.35	0.35	0.00	0.46	0.64	0.71
Ireland	0.13	0.13	0.20	0.42	0.00	0.51	0.83	0.61

Israel	0.36	0.52	0.20	0.25	0.00	0.36	0.61	0.59
Italy[10]	0.33	0.33	0.13	0.13	0.00	0.59	0.65	0.90
Japan[11]	0.41	0.41	0.20	0.10	0.00	0.53	0.56	0.95
Korea[12]	0.30	0.30	0.00	0.40	0.19	0.54	0.70	0.77
Malaysia	0.28	0.28	0.00	0.28	0.00	0.52	0.72	0.72
Mexico	0.33	0.33	0.00	0.33	0.33	0.67	0.67	1.00
Morocco[13]	0.35	0.42	0.44	0.44	0.00	0.33	0.58	0.57
Netherlands	0.35	0.35	0.00	0.25	0.00	0.49	0.66	0.75
New Zealand	0.33	0.33	0.00	0.39	0.33	0.61	0.67	0.91
Norway[14]	0.28	0.28	0.28	0.28	0.28	0.72	0.72	1.00
Pakistan[15]	0.35	0.42	0.26	0.00	0.00	0.59	0.61	0.96
Panama[13]	0.30	0.37	0.27	0.37	0.00	0.40	0.65	0.61
Poland	0.19	0.19	0.19	0.19	0.00	0.66	0.77	0.85
Portugal[16]	0.28	0.28	0.00	0.20	0.00	0.58	0.73	0.80
Singapore	0.22	0.22	0.00	0.00	0.00	0.78	0.78	1.00
South Africa[17]	0.30	0.38	0.10	0.00	0.00	0.62	0.68	0.91
Spain[18]	0.35	0.35	0.15	0.45	0.29	0.51	0.63	0.82
Sri Lanka[19]	0.35	0.35	0.00	0.35	0.00	0.42	0.65	0.65
Sweden	0.28	0.28	0.30	0.30	0.00	0.50	0.67	0.76
Switzerland[20]	0.25	0.25	0.00	0.40	0.00	0.45	0.75	0.60
Taiwan	0.25	0.25	0.40	0.40	0.10	0.51	0.68	0.76
Thailand[21]	0.30	0.30	0.00	0.10	0.10	0.72	0.70	1.03
Turkey	0.33	0.33	0.00	0.23	0.00	0.52	0.67	0.78
United Kingdom[22]	0.30	0.30	0.40	0.35	0.10	0.52	0.63	0.83
United States[23]	0.40	0.40	0.15	0.15	0.00	0.51	0.58	0.88

Notes:

[1]If the asset was acquired on or after 11:45 a.m. AEST on September 21, 1999 and has been held for at least 12 months, 50 percent of the nominal gain (with no indexing of costs for inflation) is included in the individual's taxable income.

[2]The corporate tax is levied at a rate of 33 percent, increased by a 3 percent crisis tax, which leads to a 33.99 percent rate.

[3]The 36.1 percent corporate tax rate in Canada is computed as follows: 38 percent basic rate less 10 percent provincial abatement equals to 28 percent federal rate before surtax. A federal surtax of 4 percent is levied on this rate resulting in a 29 percent tax rate. Depending on the firm's industry, a 7 percent general rate reduction or profits reduction applies. The resulting net federal tax rate of 22.1 percent is added to a "Typical provincial rate" of 12-14 percent. Capital gains tax is the highest federal/provincial tax rate as applies in Newfoundland and Labrador at 24.3 percent. Gross-up provisions for dividends apply (Gross-up dividend rate 125 percent).

[4]The standard corporate income tax and local corporate income tax rates are 30 percent and 3 percent respectively.

[5]These rates apply to income earned in 2004, to be paid in 2005. For companies not paying the CSB (*Contribution Sociale sur les Bénéficies*), the corporate income tax rates are 1.1 percentage points lower. The rate in column 2 shows the rate as from 1 July 2004 when the total *prélèlement sociaux* was increased from 10.0 to 10.3 per cent. Capital gains arising from the sale of quoted or unquoted securities, as well as of shares in SICAV and FCP, are subject to a 16 percent rate (plus 11 percent social surcharges) where the proceeds of such sales exceed € 15,000 (2005 income).

[6]German business profits are subject to two taxes, corporation tax and trade tax. Corporation tax is levied at a uniform rate of 25 percent and is then subject to a surcharge of 5.5 percent (the "solidarity levy"). The effective trade tax rate varies by location from - generally - just under 12 percent to just under 20 percent (around 18 percent for most larger cities). This tax is deductible as an expense for corporation tax. From January 1, 2002, only 50 percent of dividend income is taxable under German income tax law. The total tax burden is calculated as follows: 0.18+(0.25-0.25*0.18)*1.055=0.396275

[7]Distributed dividends that exceed a threshold equal to 30 per cent of the value of the share are taxed at the shareholder level at a personal income tax rate of 35 percent. For dividends below this threshold, the rate is 20 percent.

[8]Dividend Distribution Tax is levied at the rate of 12.8125% (12.5% plus surcharge of 2.5% of the tax) on the dividends distributed by the domestic Company.

[9]Capital gains as well as investment income are taxable as income at the individual income tax rates (max 35 percent). Dividends received by individuals from Indonesian companies are subject to a 15% withholding tax. In calculating tax liability, gross dividends are combined with other income received and the tax on the total income received is calculated using the progressive tax rates to 35%. The 15% withholding tax is credited against the total income tax due.

[10]The rate of tax payable on capital gains from shareholding is 12.5 percent for non-qualifying shareholding in a company. An individual having qualifying shareholding or receiving dividends pays usual progressive tax rates on 40 percent of the capital gain.

[11]Dividends distributed by listed corporations are withheld at a rate of 20% (10% for dividends distributed during the period between April 2003 and March 2009), and the taxpayer can choose not to include the dividend income in the tax return. On the other hand, if dividends are subject to an aggregate tax, the Credit for Dividends (to deduct 6.4%-12.8% of dividend income from income tax and local inhabitants tax) is applicable.

[12]Gross-up provisions apply (Gross-up dividend rate 119 percent)

[13]Dividends are subject to a 10% withholding tax.

[14]Note the different calculation of the Value of $1 in Capital Gains in (H): (1-A), in accordance with the Norwegian "RISK-Method". *Source*: Christiansen, V. (2004) Norwegian Income Tax Reforms, *CESifo Dice Report*, Vol. 3, pp. 9-14.

[15]Capital gains, realized within one year of acquisition are fully taxable; after one year, 75% of such gains are taxable and 25% are exempt. Dividend payment to a public company or an insurance company is subject to withholding tax rate of 5%. In all other cases withholding tax rate on dividend is 10%. The withholding of tax on dividend payment is considered as full and final discharge of tax liability.

[16]The corporate tax rate is 25 percent, increased to 27.5 percent in most cases by a municipal surcharge (*derrama*) of 10 percent. Capital gains derived from the sale of shares held for more than 12 months are exempt from personal income tax. Only 50 percent of dividend income is taxable. Lisbon rates apply.

[17]The corporate tax rate applicable to companies in 2004 is 30%. However South Africa imposes an additional 'Secondary Tax on Companies' at the rate of 12.5% on any net dividends declared. The effect of this additional tax is that if a company distributes 100% of its retained earnings as a dividend, then an effective tax rate of 37.78% will apply. This does not apply to gold mining companies, which are taxed on a formula basis. Capital gains tax is charged at individual tax rates (40%) on 25% of the gain realized by an individual.

[18]Capital gains from assets held for more than one year are included in the "special part" of the taxable base and are taxed at 15%.

[19]A withholding tax of 15% on dividends applies to all companies other than quoted public companies. This can be credited against the individual income tax of the shareholders. Quoted public companies have to deduct the 15% withholding tax on dividends paid to non-resident shareholders.

[20]The corporate income tax rate includes the church tax, while the personal income tax rates excludes it. The tax burden of income (and capital) varies from canton to canton. As a general rule, the approximate range of the maximum effective income tax rate on profit for federal, cantonal, and communal taxes is between 16.4% and 29.2%, depending on the company's place of residence. The average tax rate is approx. 25%.

[21]The withholding tax rate on dividends is 10% for individuals. However, individuals resident in Thailand are better off paying the normal progressive income-tax rates on dividends and claiming the credit, since the credit for those who earn more than Bt4m reduces the effective rate of taxation on dividends to below 10%.
[22]Gross-up provisions apply (Gross-up dividend rate 111.1 percent)
[23]The U.S. corporate tax rate includes a 6.6 percent (average) local tax rate on top of the adjusted central government corporate income tax rate of 32.7 tax rate. New York rates apply.

Sources: *OECD Tax Database*, Organisation for Economic Co-operation and Development, 2000-2007
Worldwide Tax Summaries, PriceWaterhouseCoopers, 2006
Corporate Tax Rates Survey, KPMG, 2004
Tax Guides, Deloitte, 2004-2007
Internationale Steuern im Vergleich, Monatsbericht des BMF, January 2005