

**CEO Tournaments: A Cross-Country Analysis
of Causes, Cultural Influences and Consequences**

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Abstract

We examine CEO tournament structure (measured as the ratio of pay between the CEO and other top executives) across countries and find it to be steeper in the U.S. than in other countries. Testing the primary implications of tournament theory, we find that across countries, the tournament structure tends to be positively related to firm value. Further, we find that the tournament structure itself varies across firms systematically according to firm and country characteristics. In particular, the cultural values of Power Distance, Fair Income Differences and Competition are significantly associated with differences in tournament structures.

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I. Introduction

Tournaments can help spur the participants to ever higher levels of achievement, whether the tournament is among sports players, portfolio managers, or managers within a firm.¹ Theory suggests that rank-order promotion tournaments in which the final (i.e., CEO) stage has a substantially higher level of compensation encourages competition, leading to better performance and ultimately, higher firm value. Corporate promotion tournaments are considered important because of the incentives they provide for higher managerial performance throughout the firm (Lazear and Rosen, 1981; Bognanno, 2001). Recently Kale, Reis, and Venkateswaran (2009) find support for this argument with regard to U.S. firms. They document that the pay differentials between CEOs and other top executives in their firms are positively associated with firm values. However, other empirical research, e.g., Conyon, Peck and Sadler (2001) and Rajgopal and Srinivasan (2006), does not find results consistent with tournament theory. Questions that arise about the CEO tournament structure concern the appropriate level and structure of executive compensation as incentive mechanisms for better firm performance, and further, whether tournament theory even holds as the explanation for the large differences in CEO pay versus other top executives, both in the U.S. and elsewhere. In this paper we examine the CEO tournament structure of pay across countries in order to better understand the causes and consequences of CEO tournaments and their potential for explaining managerial compensation structures and firm performance.

A fundamental question regards the determinants of CEO tournaments. Theory (e.g., Lazear and Rosen, 1981 and Rosen, 1986) suggests that the incentives provided in a corporate tournament structure depend on the existence of a CEO tournament, the assessed probability of

¹ See, for example, Nalebuff and Stiglitz (1983); Lazear and Rosen (1981), Rosen (1986); Brown, Harlow and Starks (1996); Bognanno (2001); Kale, Reis, and Venkateswaran (2009).

winning the tournament, the participants' utility functions and the final prize (or steepness of the tournament). These attributes of the tournament and their effects would in turn be expected to be influenced by the cultural, economic and legal environments in which they arise. Thus, if CEO tournaments are an important source of incentives for managers, then the motivations a tournament initiates as well as its consequences not only should be related to firm characteristics (e.g., Kale, et. al., 2010), but also should be related to the firm's home country cultural values, economic climate, and legal standards.

We expect cultural factors to be associated with the level and structure of executive compensation since culture manifests in social systems, including corporate governance systems. For instance, a society's opinion on the fairness of income differences due to differences in work would be expected to influence the degree or acuteness of the tournament. The hypothesis that tournament structure is related to country cultural values is consistent with the Guiso, Sapienza and Zingales (2009) argument and evidence that culture has an effect on preferences and beliefs, and these preferences have an effect on economic outcomes. It is also consistent with other empirical evidence that country cultural values are associated with economic and financial outcomes.² Accordingly, we test whether CEO tournament structures across countries and their consequences are related to their cultural, economic and legal environments.

Using cross-country data on CEO compensation and firm characteristics from Capital IQ, we examine the CEO tournament structure for 8,799 firms in 52 countries across the 2006-2010 sample period. If tournament structures vary systematically with their cultural, economic and legal environments, then we would expect systematic differences in the level and structure of CEO compensation across countries, which is the first hypothesis we test. Similar to the findings of other researchers of cross-country comparisons of CEO pay (e.g., Fernandes, Ferreira, Matos, and Murphy, 2012; Conyon, Core, and Guay, 2011), we find that U.S. CEOs are paid significantly more than non-U.S. CEOs and that the composition of pay differs across countries.

² See, for example, Guiso, Sapienza, and Zingales, 2006; Griffin, Li, Yue and Zhao, 2009; Ahern, Daminelli, and Fracassi, 2011; Chui, Titman, and Wei, 2010; Titman, Wei and Xie, 2010; Chen, Dou, Rhee, Truong, and Veeraraghavan, 2012).

We also provide new evidence on cross-country comparisons of executive compensation by showing that the U.S. pay premium extends beyond the CEO – top executives just below the CEO are also paid more in the U.S. than in other countries.

Our primary focus is on cross-country differences in the tournament structure of the CEO compensation. We use several measures of the tournament structure: the CEO pay gap, which is the absolute dollar difference in pay between the CEO and the firm's next three highest paid executives (Bognano, 1991; Kale, et. al., 2010); the CEO pay slice, which is the percentage the CEO claims of the total compensation to the top executive group (Bebchuk, Cremers and Peyer, 2011); and the CEO pay ratio, which is the ratio of the CEO's compensation to that of the other three highest paid executives.³ We find these measures of the CEO pay differentials to be greater in the U.S. than in other countries, suggesting a steeper tournament structure. We then test our hypothesis on whether variations in CEO tournament structures are associated with firm, cultural, economic, and legal characteristics. Using proxies for culture from Hofstede (1980, 2001) and the World Values Survey we find that the CEO pay ratio is significantly related to cultural variables. Specifically, we find the ratio to be associated with Hofstede's power distance measure implying that the CEO tournament structure is reflective of the strength of the power structure in a society. We also find tournament structure to be significantly related to measures of a society's perceived desirability of income inequality and competition from the World Values Survey.

As mentioned, the CEO tournament provides incentives to the participants in the tournament. Thus, a key implication is that the current tournament structure should be related to future firm performance, which is reflected in the firm's value. We test this key hypothesized rationale for a CEO tournament for firms in our dataset across the 52 countries. We find a generally significant positive association between measures of tournament pay and Tobin's Q for firms in most regions, both U.S. and non-U.S. countries. These results are consistent with the

³ We use three top executives under the CEO rather than the four top executives that is common in the U.S. literature because the average number of other top executives for which data is available in other countries is three.

Kale, et. al. (2010) results for U.S. countries, but inconsistent with the Conyon, Peck and Sadler (2001) and Rajgopal and Srinivasan (2006) empirical implications.

This study is the first to provide a cross-country comparison of the CEO tournament structure, its determinants, and its association with firm value. Due to limited data availability, early research on cross-country CEO compensation largely relied on summary compensation measures or consultants' estimates and focused primarily on comparisons of CEO cash compensation.⁴ More recent research, e.g., Fernandes, Ferreira, Matos, and Murphy (2012), focuses on the differences in CEO compensation across countries and explanations for those differences. Our study contributes to the existing body of literature by providing analysis on the CEO tournament across countries and its relation to firm and country characteristics, including cultural variables.

We also contribute to the recent and growing literature on the influence of culture on economic outcomes. For instance, Guiso et al (2009) show that religious backgrounds have an impact on preferences for redistribution and that these preferences impact state-level policies in the U.S. Ahern, Daminelli, and Fracassi (2011) examine the role of culture in cross-border takeovers and find that dimensions of national culture (trust, hierarchy, and individualism) have effects on merger transactions. They find effects in the volume of mergers as well as synergy gains from the mergers. They further find that cultural variables are related to the merger announcement returns. Frijns, Gilbert, Lehnert, Tourani-rad (2011) also explore culture and takeovers and find that Hofstede's (1980) uncertainty avoidance score is associated with the level of takeover activity in a country as well as the type of takeover undertaken. Guiso, Sapienza, and Zingales (2009) and Bogaard and Pirinsky (2011) show the influence of culture on financial market participation. In a contemporaneous paper, Bryan, Nash and Patel (2012) examine the relation of the elements of compensation to culture. Our research provides a direct

⁴ See, for example, Kaplan (1994); Kato and Long (2005); Kato, Kim, and Lee (2003); Conyon and Murphy, (2000); Zhou (2000); Abowd and Kaplan (1999).

test of the association of cultural preferences with economic outcomes in terms of the CEO tournament.

In the next section we develop our hypotheses. Following that, in Section III we describe the data and univariate results. In Sections IV we present our primary empirical results on tournament structure, its determinants, and effect on firm value. We conclude in Section V.

II. Hypotheses on CEO tournament structures across countries

A. Cultural and institutional factors

The need for a managerial tournament arises from the inability of the shareholders (or the board of directors) to monitor the managers perfectly. Consequently, an incentive scheme is needed to motivate managers to perform at higher levels. One way in which this could be accomplished is through compensation structure, particularly tournament structure. For example, Lazear and Rosen (1981) argue that a promotion rank-order tournament with executive pay disparity motivates managers because of the opportunities to move up in the organization. That is, the large differences in compensation between positions on the corporate ladder provide motivation for higher performance. Thus, managerial effort is positively associated with the size of the pay differential and, with the assumption that firm performance is increasing in managerial effort, higher firm performance follows as well. Further, at the top of the ladder these pay differentials need to be even greater due to the final end stage of the game (Rosen, 1986).

As pointed out previously, the effects of the tournament structure depend on a variety of factors, including the existence of a CEO tournament, the probability of winning the tournament, the participants' utility functions and the final prize (or steepness of the tournament) (e.g., Lazear and Rosen, 1981 and Rosen, 1986). We expect these factors to depend upon their environments given the variations in cultural values, economic climates, and investor protection regimes across countries and accordingly test this hypothesis using measures of these factors. We obtain the cultural value measures from two different sources (Hofstede (1980, 2001) and the World Values

Survey (WVS).⁵ (We describe these sources and the variables more fully in the data section and the Appendix.)

Bebchuk, Cremers, and Peyer (2011) hypothesize that the CEO pay slice is important because it provides an estimate of the relative significance that the CEO has in comparison to the other executives based on power, abilities, or contribution to the firm. Their hypothesis suggests that the CEO pay slice could provide a window for team style versus dominant style leadership within a firm. If some U.S. CEOs manage with the dominant style more often, then this would be a potential explanation for their greater compensation relative to CEOs in other parts of the world. Similarly, Thomas (2004) argues that the dispersed ownership structure of U.S. companies gives U.S. CEOs more power relative to shareholder-control dominated systems, implying that U.S. CEOs should be paid more. He goes on to argue that the use of tournaments should be more important in the U.S. since U.S. CEOs may be more powerful or have greater authority than non-U.S. CEOs. To capture this cultural factor we use Hofstede's (1980, 2001) power distance measure, which is the degree to which a culture accepts that power is distributed unequally.

Similarly, the extent to which individuals' goals and accomplishments are seen as more important than society's goals and accomplishments may also lead to steeper tournaments. For this cultural attribute, we employ Hofstede's (1980, 2001) individualism measure, the degree to which individuals are autonomous.⁶

In their study comparing CEO compensation across the U.S., U.K. and other European countries, Conyon and Murphy (2000) speculate that differences in the U.S. and U.K. compensation could be due to higher cultural tolerance in the U.S. for income inequality that arises from differences in effort, talent, or risk taking. If individuals view working hard as beneficial, they may prefer a steeper tournament structure (greater income inequalities) as reward

⁵ See www.worldvaluessurvey.org.

⁶ Several studies in finance use Hofstede's (1980, 2001) individualism measure as a proxy for managerial overconfidence (Chen, Dou, Rhee, Truong, Veeraraghavan, 2012; Chui, Titman, and Wei, 2010; Titman, Wei, Xie, 2010).

for their efforts.⁷ Similar to their conjecture we employ measures of a society's attitudes toward income equality. We also examine cultural perceptions of the fairness of income differences, competition, and the benefits of hard work. All four of these cultural values are obtained from the World Values Survey.

Our hypotheses concerning the influence of cultural values on the CEO tournament structure are supported in part by previous research. Using a consulting firms' estimates of aggregate measures of CEO compensation at the country level for 23 countries from 1997-2001, Tosi and Greckhamer (2004) provide a rough estimate of the relation between cultural values and compensation. They conclude that aggregate country measures of compensation are positively related to a country's power distance score and individualism score, implying that CEO pay is reflective of the strength of the power structure in a society as well as the extent to which individual needs are considered more important than group needs.

One would also expect differences in executive compensation, including differences in tournament structures, to be related to other institutional environmental factors in a country. For example, given that higher investor protection is associated with more equity financing (LaPorta, Lopes-de-Silanes, Shleifer, and Vishny, 1997 and 1998), it should be particularly important to incentivize management to maximize shareholder value, and therefore, the tournament structure of compensation could be related to the level of investor protection in a country.⁸

B. Tournaments and firm value

According to the tournament theories, the ultimate result of the tournament structure is better managerial performance and greater firm value. An important empirical implication is then a positive relationship between executive pay disparity and firm valuation. Thus, our second

⁷ Conyon and Murphy (2000) do not test their conjecture.

⁸ As mentioned earlier, previous studies find differences in the level and composition of CEO compensation across countries, e.g., Fernandes, Ferreira, Matos, and Murphy (2010), although Fernandes et al argue that the differences are not substantial once one controls for international differences in corporate governance. Bryan, Nash, and Patel (2012) study CEO compensation of 256 ADR firms from 36 non-U.S. countries and find that firms in countries with stronger investor protection and with stronger rule of law have more equity compensation. In a study of 158 of the largest European firms in the year 2000, Muslu (2010) finds higher incentive compensation when agency costs are higher, but only in countries with higher investor protection.

primary hypothesis is whether a relationship exists across countries between CEO tournament structures and firm values.

This relationship between tournament structure and firm value has been tested previously in individual countries (the U.S., U.K., and Denmark) with mixed results. Two studies (Rajgopal and Srinivasan (2006) using U.S. data, and Conyon, Peck and Sadler (2001) using U.K. data) find no evidence that their measure of tournament pay (pay dispersion measured as the standard deviation of executive compensation are significantly related to firm performance (measured by stock returns). On the other hand, several studies find evidence in support of the tournament theory—Lee, Lev and Yeo (2008), measuring tournament incentives through pay dispersion (the standard deviation of compensation divided by the mean compensation) find a positive relation between that measure and Tobin's Q or stock performance for U.S. firms. Kale, Reis and Venkateswaran (2009), measuring tournament incentives as the dollar difference between the CEO's compensation and the median of the next 4 top executives in the firm, find a positive relation between this measure and firm performance (measured by Tobin's Q and operating performance) for U.S. firms.⁹

III. Data

A. Firm characteristics

We obtain data on individual firms' characteristics, including data on executive compensation from Capital IQ. The executive compensation data includes the dollar value of salaries, bonuses, option awards, restricted stock awards, and total compensation.¹⁰ Total compensation is defined as the sum of all compensation components for an executive including compensation other than salary, bonus, restricted stock, and options. We also employ data on the firm's size (size measure), leverage (debt ratio), profitability (ROA), level of cash holdings (cash

⁹ In addition, Eriksson (1999) (for Danish companies) and Audas, Barmby, and Treble (2004) (for a single British employer) find support for the predictions of tournament theory that executive effort is positively related to the spread in compensation.

¹⁰ All of the compensation components are from proxy statements, or the country equivalent. The values for option grants and restricted stock grant values are as listed in the compensation disclosure.

ratio), stock market performance (return). We measure firm risk (standard deviation of return) using data from Datastream, and lose some observations after this merge. To reduce the influence of large outliers, we winsorize compensation and firm characteristic measures at the 5th and 95th percentiles. Due to the sparsity of some of the compensation variables prior to 2006, our sample covers the 2006 through 2010 period. This results in a final sample of 8,799 firms, and 23,723 firm-years over the period 2006-2010 for 52 countries. Table 1 shows the country and year break out for our sample.

B. Country characteristics

1. Measures of culture

Our cultural value characteristics derive from two sources, Hofstede (1980, 2001) and the World Values Survey. Hofstede develops a set of cultural value dimensions according to national origin and argues that these cultural values are formed through early socialization. In the 1960s and 1970s, he measured culture using survey responses from almost 90,000 IBM employees across 40 countries. This measure has been used extensively in prior research (see Kirkman, Lowe, and Gibson (2006) for a review). According to Hofstede's model, culture can be characterized in terms of several dimensions; those we expect to influence the CEO tournament structure are Power Distance and Individualism. The Power Distance index, which measures perceptions of equality in the distribution of power in a society, is calculated based on three questions from the Hofstede survey and is increasing in power distance with a theoretical range from -90 (no power distance) to +210 (supreme power distance). The range in the data is 11 to 104. The second Hofstede measure we employ is Individualism-Collectivism, which we term Individualism. The intent of this measure is to capture the degree to which a society appreciates the individual versus the collective.¹¹

¹¹ The other two original Hofstede (1980, 2001) cultural value dimensions are masculinity and uncertainty avoidance. We did not perceive a rationale for either to be important to the question of tournament. With regard to uncertainty avoidance, the three questions that comprise this variable are: (1) How often do you feel nervous or tense at work? (2) Company rules should not be broken, even when the employee thinks it is in the company's best interests. (3) How long do you think you will continue to work for this firm (with potential answers of less than 2

We also use additional measures of cultural values based on questions from the World Values Survey that we consider relevant to promotion or compensation. The World Values Survey (WVS) has been developed by “a worldwide network of social scientists studying changing values and their impact on social and political life.”¹² These scientists conduct representative national surveys in 97 societies containing almost 90 percent of the world’s population. The surveys, which are conducted in person, have been administered in waves: 1981-1984, 1989-1992, 1994-1998, 1999-2004, and 2005-2008. Because our compensation data spans 2006 to 2010, we use culture measures from the 2005-2008 wave.¹³ The major advantage of the WVS data relative to the Hofstede data is that it is more recent and covers a broader set of countries.

The questions we include from the WVS measure the extent to which people see income inequality as desirable, competition and hard work as rewarding, and the workplace as hierarchical. Two variables in the WVS survey measure national attitudes on income inequality—“Fairness: One secretary is paid more” and “Income Equality.” We refer to these as *Fair Income Differences* and *Income Inequality*. We measure attitudes towards competition and hard work using the “Competition good or harmful” and “Hard work brings success” variables to which we refer as *Competition* and *Hardwork*. We provide a summary of the cultural variables, their expected relation with tournament compensation, the complete questions for each of these measures and their descriptive statistics in the Appendix.¹⁴ If the tournament structures are related to cultural values as we expect, there should be a positive association between the steepness of the tournament structure and each of the variables.¹⁵ That is, we expect the CEO pay ratio to be increasing in a society’s willingness to accept power differentials, respect for

years, 2-5 years, more than 5 years)? These questions also do not seem to have large bearing on the causes and consequences of tournament structure in a country.

¹² See www.worldvaluessurvey.org.

¹³ Although cultural values change very slowly over time, because we know the year in which a particular country is surveyed, we match the most recent measure of a cultural item from the WVS to the year of the compensation data.

¹⁴ Ahern, Daminelli and Fracassi (2011) discuss the construct validity of the World Values Survey and conclude that country level cultural values are appropriate proxies for the cultural values held by the employees of the firm.

¹⁵ We have reversed the signs on competition and hard work so that the tournament structure would be increasing in those variables.

individualism, perceptions that income differentials based on work differences are fair, that income inequality is desirable, that competition is good and that hard work brings success.

For the variables *Income Inequality*, *Hardwork*, and *Competition*, which are surveyed on a scale of 1 to 10, our measure is the average response for each country. However, in order to reduce confusion, we reverse the signs of the WVS reported average responses so that all variables have the same expected positive association with the tournament structure. For *Fair Income Differences*, our measure is the % positive responses - % negative responses + 100, implying on a scale of 0 to 200 that 200 corresponds to "Fair" and 0 corresponds to "Not Fair".

2. Economic characteristics

We employ two measures of a country's economic environment over our sample period. First, we use each country's GNP per capita. Second, we measure the distribution of income within a society using the Gini coefficient. A Gini coefficient of zero expresses perfect equality where all incomes are the same (for example, where everyone has an exactly equal income). A Gini coefficient of one (100 on the percentile scale) expresses maximal inequality among values (for example where only one person has all the income). The measure for Gini Coefficient is from the U.S. Central Intelligence Agency (CIA).

The other country economic characteristics we consider are a measure of the country's stock market return performance, its legal environment using the Durnev and Kim (2005) measure, and the ratio of stock market capitalization to GDP development.

IV. Cross-country comparisons of executive compensation and tournament value

A. Executive compensation

The first implication of the hypothesis that CEO tournaments should be related to cultural values is that there should be significant differences in the tournament structures also potentially implying differences in compensation. Thus, we first compare executive compensation between the U.S. and other countries to determine whether the pay premium documented for U.S. CEOs

(e.g., Fernandes, et al, 2012) holds across our sample of firms and whether such a premium also exists for executives below the CEO level. Figure 1 shows that not only do U.S. CEOs receive a higher total compensation, on average, than non-U.S. CEOs, but that executives just below the CEO level also receive higher total compensation than non-U.S. CEOs and executives. Panels A and B of Table 2 provide more detail on the average total compensation and the components of compensation: salary, bonus, restricted stock grants, and option grants. As Panel A shows, in our sample the average total compensation for U.S. CEOs is \$2.34 million, which is almost twice as high as the total compensation for non-U.S. CEOs of \$1.06 million, a difference that is both economically and statistically significant. Figure 2 and Table 2, Panel A also show significant differences in the components of compensation between U.S. and non-U.S. CEOs. It is not the case, however, that U.S. CEOs always have the greater compensation in each of the components. Although equity compensation is greater for U.S. CEOs than their counterparts in other countries, the bonus compensation is significantly less. In fact, U.S. CEOs receive about half the bonus of their non-U.S. counterparts; in contrast they receive significantly more in restricted stock and options, more than offsetting the difference in cash pay.¹⁶

Panel B of Table 2 shows the comparisons for the average compensation of the other top executives in a firm. As is the case for CEOs, a U.S. pay premium exists for the total compensation of non-CEO executives. We find again that the U.S. equity compensation is greater, but the bonuses are smaller.

In testing our hypotheses on the relation between tournament structures and cultural factors, we need a measure of the tournament structure that allows comparability across firms, industries, and most importantly, countries and currencies. That is, because of the broader comparisons we are making, we need some normalization of the tournament differential in pay. Consequently, the primary measure we employ is the CEO pay ratio (which as explained earlier

¹⁶ Fernandes, et. al. (2012) find a large difference in restricted stock and options between the U.S. and non-U.S. companies but they do not find such a large difference in the use of bonus pay. The reason for the differences in results may be due to a difference in the composition of the samples. We have 8,799 separate firms, while they have 3,263 and as we show below, our firms tend to be smaller on average.

is defined as the ratio of CEO pay to the average pay of the top three non-CEO executives in the firm). We also employ alternative measures used in previous studies.

In Panel C of Table 2 we provide summary statistics on the measures of the tournament structure separately for U.S. and non-U.S. firms. Examining the CEO pay ratio, we find that the tournament structure is still greater for U.S. CEOs than the non-U.S. CEOs: U.S. CEOs make 1.94 (2.11) times the mean (median) top executive, while non-U.S. CEOs make 1.57 (1.68) times the mean (median) top executive. CEO pay gap is the Kale, Reiss, and Venkateswaran (2009) tournament measure (the difference between the CEO's pay and the medians of other top executives' pay). We find, similar to their paper, that in the U.S., CEO compensation is significantly higher than the median compensation of the other top executives by \$1.23M, again consistent with a tournament structure. We also find such a tournament structure in the non-U.S. countries but to a lesser absolute degree, with the difference between CEO and other executives being \$0.27M. However, given the differences in the levels of pay between U.S. and non-U.S. executives, it is difficult to compare these amounts on an absolute basis. In addition, we find the Bebchuk, Cremers, and Peyer (2011) CEO pay slice (CPS), i.e., the percentage of executive compensation paid to the CEO, to be slightly higher in the U.S. than other countries. As Table 2 shows, the economic significance of the difference is low given that 36% and 33% of the top executive pay goes to the CEO in the U.S. and non-U.S. countries, respectively. The measure of the CEO's slice of equity compensation, denoted CEO-E, shows that of those firms that pay their executives with equity, 33% of the incentive equity based compensation goes to the CEO, in contrast to 31% to the CEO in non-U.S. countries.¹⁷ Correspondingly, the CEO's slice of non-equity compensation, denoted CEO-NE, is still greater in the U.S. relative to other countries, but to a lesser degree. In summary, U.S. CEOs are paid more than non-U.S. CEOs relative to other top executives, but also apparently take on a little more risk in their compensation through their incentive compensation structure.

¹⁷ Because this measure is valid only for those firms that use equity based compensation, the sample size for non-U.S. firms reduces to 3,860.

Panel D describes firm characteristics. The average revenue of firms in the sample of U.S. (non-U.S.) firms is \$2.19 billion (\$2.79 billion).¹⁸ Other measures of size, including assets and market value also show that the average non-U.S. firm in our sample is larger than the U.S. firms. This is striking because average compensation for U.S. firms in the univariate analysis is larger than for non-U.S. firms. Reflecting the economic period over which we study, average return on assets is 1% for U.S. firms and 4% for non-U.S. firms. Tobin's q is an average of 1.24 for U.S. firms and 1.15 for non-U.S. firms. Over our sample period, average annual returns are lower for U.S. firms, although their risk (return standard deviation measured over 12 months) is higher for U.S. firms.

Table 3 presents the same statistics as in Table 2 but using the subset of Capital IQ firms that are in the top tercile of size to facilitate comparison with previous studies of U.S. compensation. The average revenue of this U.S. (non-U.S.) sample is \$4 billion (\$5.9 billion). Similarly, total compensation for U.S. CEOs (non-U.S.) is greater at \$3.7M (1.8M). The difference between U.S. and non-U.S. compensation is even greater than that reported in Table 1, reflecting that U.S. pay might be more sensitive to firm size. The compensation of other executives is also greater in the U.S. In general, the results in Table 3 mirror those in Table 2, but the differences between the U.S. and non-U.S. compensation variables are somewhat magnified.

B. Determinants of CEO compensation

We begin the analysis of CEO compensation across countries by examining the determinants of the CEO's total compensation and its components allowing for differences between the U.S. and other countries. Our first tests examine the relation between CEO compensation components and firm and country level factors without the cultural values. We control for firm level factors that may affect the relation between firm value and executive

¹⁸ Thus, our sample of U.S. firms includes more smaller firms than that of other studies on U.S. compensation.

compensation. These factors, which have been most extensively studied using U.S. data, include firm size, cash flow, leverage and profitability.

Compensation has been advocated as an incentive device that can be used to mitigate firm-specific agency costs caused by such influences as the presence of greater information asymmetry, which makes monitoring more difficult and provides greater potential for managerial opportunism. For example, size has been associated with higher agency costs with the rationale that larger firms are harder to monitor (Smith and Watts, 1992; Gaver and Gaver, 1993; Bizjak, Brickley, and Coles, 1993; Bryan, Hwang, and Lilien, 2000). Jensen (1986) argues that higher free cash flow presents greater opportunity for managerial opportunism because management will have more discretion on investing the cash inefficiently. As such, more equity compensation would mitigate the problems associated with free cash flow. Alternatively, Bryan, Hwang, and Lilien (2000) suggest that firms with low free cash flow may be more likely to use equity in order to conserve cash. These authors also find that leverage is negatively associated with equity compensation, suggesting that debt acts as a substitute for monitoring, thus reducing the need for stock-based compensation. Finally, they find a positive relationship between firm profitability and the compensation a CEO receives.

Table 4 reports regressions of CEO compensation measures on an indicator variable for non-U.S. countries as well as firm and country characteristics. All regressions include standard errors clustered by country and fixed effects for country, industry and year. The dependent variable in Model (1) is the log of total compensation. Consistent with prior research (e.g., Fernandes, Ferreira, Matos, and Murphy, 2012) we find that U.S. CEOs are paid significantly more than non-U.S. CEOs as evidenced by the negative and significant coefficient on the non-U.S. indicator in Model (1). We also find that the CEO's total compensation is increasing in the firm's revenue and operating performance (measured as the return on assets) and that countries with higher GNP have higher CEO compensation.

In Models (2) through (5) the dependent variables are the proportions that each component of compensation represents of total compensation. However, these dependent variables have

higher density at zero and one. For instance, many firms pay low salaries relative to the total compensation, while for other firms virtually all of the total compensation comes as salary. Consequently, we employ a two-sided Tobit model for the estimation in this analysis. The results presented in Table 4 show that in non-U.S. countries salary and bonus make up a greater fraction of compensation and equity-based compensation makes up a smaller fraction of compensation than in the U.S. The results show that as with the total CEO compensation in Model (1), the components of that compensation are also dependent on firm and country characteristics. For example, the proportion that bonus represents of the total is increasing in firm performance and the cash ratio. In regressions of equity based compensation—restricted stock and options—we include a measure of the importance of the country’s stock market, which does not change the significance level of the non-U.S. indicator.¹⁹

C. Determinants of CEO tournament structures

In this section we examine several issues with regard to the CEO tournament structure: its determinants, whether the structure is related to firm characteristics, and how the structure differs across countries, primarily the difference between the U.S. and other countries. Table 5 presents the determinants of the CEO tournament structure in a multivariate framework, allowing for differences between the U.S. and other countries. Because there does not exist a clear definition of tournament structure, we employ several different measures as our dependent variables. The dependent variables in models (1) and (2) are the ratios of the CEO compensation to mean and median top executive non-CEO compensation, respectively. In model (3) the dependent variable is the CEO pay slice, the percent of total compensation that goes to the CEO, as in Bebchuk et. al (2011). In model (4), we examine the CEO pay gap, i.e., the difference between the CEO and median executive pay, as in Kale, Reis, and Venkateswaran (2009). Finally, in model (5) we

¹⁹ In an unreported specification, we include return standard deviation in the estimations. Our results remain qualitatively the same. However, because we do not have returns for a number of firms in our sample, we lose over 5,000 observations and six countries by including the return standard deviation. Therefore, we report results on the larger sample that variable.

examine how equity compensation is used in the U.S. relative to other countries for the subset of firms that use options or restricted stock to compensate executives, while model (6) measures the use of non-equity (both measures follow Bebchuk et. al (2011)).

In the first four regressions of the CEO tournament structure, the indicator variable *non-U.S.* is negative and significant in all specifications. Thus, consistent with the univariate results in Tables 2 and 3, even after controlling for other firm characteristics, we find that U.S. CEOs are paid more than their top management team relative to other countries, suggesting a steeper tournament structure. Regressions (5) and (6) show that for the subset of firms that use equity-based compensation, the equity slice for non-U.S. CEOs is not significantly greater than that of U.S. CEOs. Therefore, while there are significantly fewer non-U.S. firms offering restricted stock and equity in the first place, when they do provide equity compensation, it is offered to a similar extent to non-CEOs.

We next test our hypothesis that national cultural values influence CEO tournament structures by including the previously described cultural value characteristics: power distance, individualism, the extent to which income inequality is seen as desirable (Fair Income Differences, Income Inequality), competition and hard work as rewarding (Competition and Hardwork, respectively). We also consider the country economic and legal characteristics: GNP per capita, the ratio of stock market capitalization to GDP and a measure of a country's legal environment as developed by Durnev and Kim (2005).²⁰ The Durnev and Kim (2005) legal variable is defined as the product of anti-director rights and rule of law, where the anti-director rights index is from Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2008). The descriptive statistics are included in the appendix.

One concern is the correlation structure across our country variables. We present these correlations in Table 6. All of the cultural variables are significantly correlated at the 10 percent level or better; the shaded cells are correlations in absolute magnitudes of 0.50 or greater. As can

²⁰ Doidge, Karolyi, and Stulz (2007) find that these three variables, GNP per capita, the ratio of stock market capitalization to GDP and the Durnev and Kim (2005) legal variable explain more variation in firm-specific governance than do firm-specific characteristics

be seen, there are high correlations between several of the cultural variables as well as the other country characteristics. Thus, in adding the country characteristics (cultural and legal) to the compensation regressions we first include each country variable separately.

The results of the compensation determinant regressions with cultural variables added are provided in Table 7. Models (1) through (6) include Power Distance, Individualism, Fair Income Differences, Income Inequality, Hardwork, and Competition, respectively.²¹ For each country's cultural measure, we subtract the sample mean in order to evaluate the influence of the cultural measure relative to the average. In this specification, we use the CEO pay ratio as the measure of tournament although results remain qualitatively similar if we use the other tournament structure compensation variables. All regressions include standard errors clustered by country, industry, and year fixed effects. In all six models, even after including the country characteristics, the differences between tournament structures in the U.S. and non-U.S. countries remain significant.

The results on the culture variables indicate that greater ease with power differentials (Power Distance) and income differentials as based on job performance (Fair Income Differences) are positively associated with steeper tournament structures. Similarly, the positive coefficient on Competition can be interpreted as meaning that when competition is viewed by a society as beneficial, the tournament structure is steeper. The other culture variables have insignificant coefficients.²²

In Panel B of Table 7, we report regressions that include all of the culture variables in two specifications. In model (1) we include all of the cultural, economic, and legal variables as well as the firm characteristics. Once we include all of the variables, the same culture variables as in the other regressions (Power Distance, Fair Income Differences, and Competition) remain significant. It is also notable that in this model, the non-U.S. indicator becomes insignificant

²¹ Because of high correlations with some of the cultural variables, GNP per capita is orthogonalized against Power Distance, Individualism, and Fair Income Differences when included in regressions with those variables.

²² When entered into regressions separate from cultural variables or each other, neither the investor protection variable or the Gini coefficient come in significant. We do not show these regressions.

implying that cultural characteristics explain differences in tournaments between the U.S. and other countries, consistent with the Conyon and Murphy (2000) conjecture that culture may, in part, explain differences in compensation between U.S. and non-U.S. countries.²³

Finally, we consider the relation between the tournament structure and firm risk by including the firm's standard deviation of return. Including this variable reduces the number of observations because we do not have return data for all of the firms in the sample. The results, presented in Model (2) of Panel B, show that the CEO tournament structure is related to the risk of the firm in that riskier firms have lower CEO pay ratios, *ceteris paribus*. It is also notable that the risk measure does not change the qualitative interpretations – Power distance, Fair income differences and Competition enhance the tournament structure.

D. CEO Tournaments and Firm Value

As pointed out earlier, an argument in favor of the tournament structure is that it sets up a competitive environment that encourages individual performance and therefore increases firm performance and value (Lazear and Rosen, 1981; Rosen, 1986). Thus, the primary empirical implication of tournament theory is a relation between firm value and the size of the reward. We test this implication by regressing a measure of firm value (Tobin's q) on a measure of the CEO pay ratio (CEO compensation/Mean of other top executives' compensation) for the companies in our sample.

The results of these regressions are shown in Table 8. In Model (1) we include data from all countries. In the remaining models in the table we run the regression for firms from different geographic regions individually. All of the regressions include industry (Fama-French 12) and year controls. Standard errors are clustered by country when appropriate.

In Model (1), which includes both U.S. and non-U.S. firms, the indicator variable for non-U.S. firms is insignificant suggesting no significant systematic differences between Tobin's q for

²³ We also ran the regressions in Table 7 excluding U.S. companies from the analysis and find that the coefficients on Power Distance and Competition remain significant.

U.S. firms as compared to other firms across the world. There is, however, a significantly positive relation between a firm's Tobin's q and the CEO tournament pay measure. In Models (2) through (8) we present the results of the tests of firm value and CEO tournament structure by region. We find that North America, not surprisingly since it is dominated by U.S. companies, continues to show a positive relation between q and CEO tournament pay as do the European, Oceanic, Nordic and African regions. In contrast, a significant relation between the tournament structure and q does not exist in the Asian and Middle East regions.²⁴

In general, the positive relation between q and CEO tournament pay appears to hold across firms in diverse geographic regions, providing evidence consistent with tournament theory. While tournaments are positively associated with firm value, Table 7 shows that culture influences tournament structure. Therefore we next examine if the relation between q and tournament structure is heightened in the presence of some cultural characteristics. For instance, if power distance is acceptable in a culture, then greater power distance and steeper tournament structures may react together to enhance firm value; on the other hand if power distance is not acceptable, and the tournament structure is steep, this interaction could potentially even reduce firm value. We therefore regress firm value on the interaction of tournament and measures of culture. We include country indicators in the regressions, rather than culture by itself, since many country level factors besides culture affect firm value. Because country subsumes culture, it is then econometrically correct to exclude culture as stand-alone variables. The results, presented in Model (1) of Table 9, show that when competition is viewed less favorably and tournaments are steeper, firm value is reduced.²⁵ In Model (2) we add the standard deviations of returns to the model. The results do not change materially with the addition of this variable.

V. Conclusions

²⁴ We do not include South America in this table due to the small number of observations.

²⁵ We also use a two stage analysis to test culture and get similar results.

The degree to which the CEO tournament structure motivates future executives and the success of such a structure in terms of enhanced firm value are two questions that we address through a comprehensive analysis of cross-country differences in executive compensation. Using data from Capital IQ on executive salaries, bonuses, and equity-based compensation for 8,799 firms across 52 countries and 8 regions, we find that U.S. executives are paid more than their counterparts in other countries. This holds for CEOs as well their top executives. The difference appears to be primarily driven by the increased use of incentive compensation in the U.S. while other countries rely more heavily on bonuses.

We find that a steeper tournament structure leads to better performance generally across firms in our sample from a wide variety of regions. However, this is not true across all regions as we find a negative association between the CEO tournament pay and performance in Africa and no relation in the Nordic region. The interaction of culture and tournament also affects the CEO tournament's impact on firm value.

In testing for the determinants of CEO tournament structures, we find that the tournament structure is steeper in U.S. companies as compared to foreign companies. Our results indicate that this can be partially explained by cultural influences which include measures of the acceptability of power, income differentials and the desirability of competition.

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Table 1**Distribution of Observations**

This table shows the distribution of observations by country and time.

| Country | 2006 | 2007 | 2008 | 2009 | 2010 | Total |
|----------------------|-------------|-------------|-------------|-------------|-------------|--------------|
| North America | | | | | | |
| United States | 2,468 | 3,056 | 3,031 | 3,012 | 2,074 | 13,641 |
| Canada | 214 | 245 | 159 | 99 | 49 | 766 |
| Europe | | | | | | |
| Austria | 10 | 8 | 9 | 13 | 8 | 48 |
| Belgium | 7 | 9 | 8 | 19 | 4 | 47 |
| Channel Islands | 4 | 5 | 2 | 0 | 0 | 11 |
| Cyprus | 1 | 1 | 2 | 6 | 0 | 10 |
| Czech Republic | 2 | 0 | 0 | 0 | 0 | 2 |
| France | 86 | 89 | 137 | 112 | 40 | 464 |
| Germany | 154 | 113 | 154 | 156 | 73 | 650 |
| Italy | 8 | 4 | 9 | 11 | 8 | 40 |
| Liechtenstein | 1 | 2 | 2 | 1 | 0 | 6 |
| Luxembourg | 2 | 2 | 2 | 4 | 1 | 11 |
| Netherlands | 67 | 55 | 60 | 78 | 31 | 291 |
| Poland | 4 | 5 | 14 | 20 | 2 | 45 |
| Portugal | 3 | 2 | 3 | 15 | 4 | 27 |
| Russia | 2 | 1 | 0 | 1 | 0 | 4 |
| Slovenia | 7 | 2 | 8 | 11 | 1 | 29 |
| Spain | 6 | 6 | 6 | 5 | 2 | 25 |
| Switzerland | 18 | 86 | 117 | 154 | 51 | 426 |
| United Kingdom | 514 | 399 | 443 | 482 | 193 | 2,031 |
| Ukraine | 0 | 0 | 0 | 1 | 0 | 1 |
| Nordic | | | | | | |
| Denmark | 9 | 9 | 10 | 19 | 12 | 59 |
| Finland | 17 | 12 | 14 | 14 | 11 | 68 |
| Norway | 50 | 44 | 36 | 52 | 12 | 194 |
| Sweden | 74 | 48 | 65 | 109 | 15 | 311 |
| Oceania | | | | | | |
| Australia | 442 | 440 | 481 | 502 | 331 | 2,196 |
| New Zealand | 7 | 4 | 7 | 0 | 5 | 23 |
| Papua New Guinea | 1 | 2 | 2 | 0 | 1 | 6 |

| Country | 2006 | 2007 | 2008 | 2009 | 2010 | Total |
|----------------------|--------------|--------------|--------------|--------------|--------------|---------------|
| Asia | | | | | | |
| Cambodia | 0 | 0 | 0 | 1 | 0 | 1 |
| China | 76 | 70 | 84 | 287 | 36 | 553 |
| Hong Kong | 315 | 260 | 316 | 0 | 63 | 954 |
| India | 14 | 11 | 19 | 80 | 4 | 128 |
| Macau | 0 | 0 | 0 | 1 | 0 | 1 |
| Pakistan | 39 | 26 | 25 | 0 | 0 | 90 |
| Philippines | 0 | 0 | 0 | 1 | 0 | 1 |
| Singapore | 18 | 17 | 13 | 26 | 11 | 85 |
| Thailand | 1 | 0 | 4 | 0 | 0 | 5 |
| Vietnam | 1 | 1 | 1 | 1 | 0 | 4 |
| Middle East | | | | | | |
| Israel | 5 | 8 | 16 | 25 | 2 | 56 |
| Jordan | 0 | 0 | 0 | 3 | 0 | 3 |
| Kazakhstan | 1 | 1 | 1 | 2 | 1 | 6 |
| Africa | | | | | | |
| Botswana | 0 | 0 | 1 | 1 | 0 | 2 |
| Egypt | 0 | 0 | 0 | 1 | 0 | 1 |
| Mauritius | 0 | 0 | 0 | 1 | 0 | 1 |
| Namibia | 0 | 0 | 0 | 1 | 0 | 1 |
| South Africa | 132 | 91 | 114 | 0 | 54 | 391 |
| South America | | | | | | |
| Argentina | 0 | 0 | 0 | 1 | 0 | 1 |
| Chile | 0 | 0 | 0 | 1 | 0 | 1 |
| Colombia | 0 | 1 | 0 | 2 | 0 | 3 |
| Mexico | 0 | 0 | 0 | 1 | 0 | 1 |
| Peru | 0 | 0 | 0 | 2 | 0 | 2 |
| Total | 4,780 | 5,135 | 5,375 | 5,334 | 3,099 | 23,723 |

Table 2 Univariate Statistics for Differences in Compensation, Tournament Structures, and Firm Characteristics between U.S. and Non-U.S. Executives

This table shows univariate statistics for executive compensation in the U.S. and in non-U.S. countries. Panels A and B provide total compensation and its components (salary, bonus, restricted stock grants, and options) for CEOs and other executives, respectively, in U.S. dollars. Panel C provides different tournament measures that compare the CEO's compensation to that of the top 3 other executives: the CEO Pay Ratio [total compensation/mean others] and the CEO Pay Ratio using the median compensation of other executives; the CEO pay gap (the difference in total compensation between the CEO and the median of other executives), the CEO Pay Slice (the percentage of executive compensation that goes to the CEO), and CEO-E Pay Slice and CEO-NE Pay Slice (the percentage of equity and non-equity compensation that goes to the CEO). Panel D provides means for the firm characteristics: Sales, Assets, Market Value, Net Income, Debt Ratio(Total Debt/Assets), Return on Assets(EBIT/Assets),Cash Ratio (Cash/Assets), Tobin's Q(sum of MV of equity+ BV of debt, adjusted by assets), Returns (average yearly stock returns). Each row shows the mean and number of observations for U.S. and non-U.S. observations. The final column of each row provides the results of t-tests of the differences between the U.S. and Non-U.S. means. ***, **, * denote significance at the 1%, 5% and 10% levels, respectively.

Panel A CEO Compensation

| Variable | U.S. | | Non-U.S. | | Diff(U.S. and non-U.S.) |
|-------------------------|-----------|--------|-----------|--------|-------------------------|
| | Mean | N | Mean | N | |
| Total compensation | 2,338,705 | 13,641 | 1,061,437 | 10,082 | *** |
| Salary | 441,053 | 13,641 | 388,110 | 10,082 | *** |
| Bonus | 189,237 | 13,641 | 338,218 | 10,082 | *** |
| Restricted stock grants | 611,326 | 13,641 | 82,866 | 10,082 | *** |
| Options | 353,314 | 13,641 | 60,566 | 10,082 | *** |

Panel B. Average of Other Top 3 Executives' Compensation

| Variable | U.S. | | Non-U.S. | | Diff(U.S. and non-U.S.) |
|-------------------------|-----------|--------|----------|-------|-------------------------|
| | Mean | N | Mean | N | |
| Total compensation | 1,162,771 | 12,403 | 723,127 | 8,986 | *** |
| Salary | 294,700 | 13,517 | 293,654 | 9,322 | |
| Bonus | 97,778 | 13,234 | 216,454 | 8,995 | *** |
| Restricted stock grants | 349,373 | 10,483 | 190,108 | 2,062 | *** |
| Options | 224,900 | 9,615 | 138,740 | 2,594 | *** |

Panel C CEO Tournament Measures

| Variable | U.S. | | Non U.S. | | Diff(U.S. and Non-U.S.) |
|--|-------------|----------|-----------------|----------|--------------------------------|
| | Mean | N | Mean | N | |
| CEO Ratio with Mean | 1.936 | 12,403 | 1.565 | 8,986 | *** |
| CEO Ratio with Median | 2.115 | 12,403 | 1.683 | 8,986 | *** |
| CEO Pay Gap (in millions USD) | 1.230 | 12,403 | 0.270 | 8,986 | *** |
| CEO Pay Slice (percentage of top pay) | 0.360 | 12,403 | 0.328 | 8,986 | *** |
| CEO Equity Pay Slice | 0.328 | 10,551 | 0.312 | 3,053 | *** |
| CEO Non-Equity Pay Slice | 0.304 | 12,401 | 0.298 | 8,984 | * |

Panel D Firm Characteristics

| Variable | U.S. | | Non U.S. | | Diff(U.S. and Non-U.S.) |
|-------------------------------|-------------|----------|-----------------|----------|--------------------------------|
| | Mean | N | Mean | N | |
| Sales | 2,188 | 13,641 | 2,789 | 10,082 | *** |
| Assets | 5,177 | 13,641 | 8,627 | 10,082 | *** |
| Market Value of Equity | 2,656 | 13,641 | 3,269 | 10,082 | *** |
| Net Income | 146 | 13,641 | 237 | 10,082 | *** |
| Debt Ratio | 0.21 | 13,641 | 0.18 | 10,082 | *** |
| ROA | 0.01 | 13,641 | 0.04 | 10,082 | *** |
| Cash Ratio | 0.12 | 13,641 | 0.14 | 10,082 | *** |
| Tobin's q | 1.24 | 13,641 | 1.15 | 10,082 | *** |
| Returns | 0.09 | 12,350 | 0.16 | 8,534 | *** |
| Standard deviation of returns | 0.12 | 9,817 | 0.11 | 6,614 | *** |

Table 3 Univariate Statistics for Differences in Compensation, Tournament Structures, and Firm Characteristics between U.S. and Non-U.S. Executives

This table shows univariate statistics for executive compensation in the U.S. and in non-U.S. countries for the largest half of firms in the sample. Panels A and B provide total compensation and its components (salary, bonus, restricted stock grants, and options) for CEOs and other executives, respectively, in U.S. dollars. Panel C provides different tournament measures that compare the CEO's compensation to that of the top 3 other executives: the CEO Pay Ratio [total compensation/mean others] and the CEO Pay Ratio using the median compensation of other executives; the CEO pay gap (the difference in total compensation between the CEO and the median of other executives), the CEO Pay Slice (the percentage of executive compensation that goes to the CEO), and CEO-E Pay Slice and CEO-NE Pay Slice (the percentage of equity and non-equity compensation that goes to the CEO). Panel D provides means for the firm characteristics: Sales, Assets, Market Value, Net Income, Debt Ratio(Total Debt/Assets), Return on Assets(EBIT/Assets),Cash Ratio (Cash/Assets), Tobin's Q(sum of MV of equity+ BV of debt, adjusted by assets), Returns (average yearly stock returns). Each row shows the mean and number of observations for U.S. and non-U.S. observations. The final column of each row provides the results of t-tests of the differences between the U.S. and Non-U.S. means. ***, **, * denote significance at the 1%, 5% and 10% levels, respectively.

Panel A CEO Compensation

| Variable | U.S. | | Non-U.S. | | Diff(U.S.and Non-U.S.) |
|-------------------------|-----------|-------|-----------|-------|------------------------|
| | Mean | N | Mean | N | |
| Total compensation | 3,741,425 | 7,214 | 1,772,444 | 4,647 | *** |
| Salary | 599,813 | 7,214 | 581,394 | 4,647 | *** |
| Bonus | 293,403 | 7,214 | 617,348 | 4,647 | *** |
| Restricted stock grants | 1,033,204 | 7,214 | 160,727 | 4,647 | *** |
| Options | 556,319 | 7,214 | 97,663 | 4,647 | *** |

Panel B Average of Other Top 3 Executives' Compensation

| Variable | US | | Non US | | Diff(US and non-US) |
|-------------------------|-----------|-------|-----------|-------|---------------------|
| | Mean | N | Mean | N | |
| Total compensation | 1,774,159 | 6,686 | 1,193,922 | 4,146 | *** |
| Salary | 376,730 | 7,207 | 435,015 | 4,232 | *** |
| Bonus | 142,773 | 7,063 | 390,085 | 4,106 | *** |
| Restricted stock grants | 522,579 | 6,377 | 365,785 | 984 | *** |
| Options | 315,566 | 5,398 | 256,200 | 964 | *** |

Panel C Tournament Measures

| Variable | U.S. | | Non-U.S. | | Diff(US and non-US) |
|---------------------------|------|-------|----------|-------|---------------------|
| | Mean | N | Mean | N | |
| CEO Pay Ratio with Mean | 2.07 | 6,686 | 1.49 | 4,146 | *** |
| CEO Pay Ratio with Median | 2.29 | 6,686 | 1.59 | 4,146 | *** |
| CEO Pay Gap | 2.00 | 6,686 | 0.45 | 4,146 | *** |
| CEO Pay Slice | 0.37 | 6,686 | 0.31 | 4,146 | *** |
| CEO-Equity Pay Slice | 0.33 | 6,276 | 0.32 | 1,428 | * |
| CEO-Non-Equity Pay Slice | 0.30 | 6,686 | 0.28 | 4,146 | *** |

Panel D Firm Characteristics

| Variable | U.S. | | Non-U.S. | | Diff(U.S. and Non-U.S.) |
|---------------------------|----------|-------|-----------|-------|-------------------------|
| | Mean | N | Mean | N | |
| Sales | 4,024.79 | 7,214 | 5,904.12 | 4,647 | *** |
| Assets | 9,668.46 | 7,214 | 18,570.27 | 4,647 | *** |
| Market value of equity | 4,891.09 | 7,214 | 6,948.25 | 4,647 | *** |
| Net income | 278.67 | 7,214 | 508.45 | 4,647 | *** |
| Debt ratio | 0.25 | 7,214 | 0.23 | 4,647 | *** |
| ROA | 0.06 | 7,214 | 0.07 | 4,647 | *** |
| Cash ratio | 0.08 | 7,214 | 0.09 | 4,647 | *** |
| Tobin's q | 1.04 | 7,214 | 1.00 | 4,647 | *** |
| Returns | 0.09 | 6,690 | 0.18 | 4,213 | *** |
| Return standard deviation | 0.09 | 5,184 | .08 | 3,931 | *** |

Table 4: Determinants of CEO Compensation Level and Composition across Countries

This table shows the multivariate estimation where the dependent variables are CEO compensation variables and the independent variables are potential determinants of compensation. All independent variables are lagged one year. The dependent variable in Model (1) is the log of total compensation. The dependent variables in Models (2)-(5) are the proportions of the compensation components as proportions (salary, bonus, restricted stock grants, and options) for which we use Tobit models. For each variable, the coefficient is on the first line and p-value is on the second line in parentheses. We control for robust standard errors clustered by country as well as country, industry and year fixed effects. ***, **, * denote significance at the 1%, 5% and 10% levels, respectively.

| | (1) | (2) | (3) | (4) | (5) |
|---------------------|---------------------------|--------------------------------|-------------------------------|-----------------------------|---------------------------------|
| | Log Total Comp | Salary/ Total Comp. | Bonus/ Total Comp. | RSG/ Total Comp. | Options/ Total Comp. |
| Non-U.S. | -1.103*** (0.00) | 0.097*** (0.00) | 0.118*** (0.00) | -0.117*** (0.00) | -0.074*** (0.00) |
| Log revenue | 0.307*** (0.00) | -0.043*** (0.00) | 0.012 (0.13) | 0.017*** (0.01) | 0.008* (0.07) |
| Debt ratio | -0.232 (0.24) | -0.035** (0.03) | 0.005 (0.61) | 0.023* (0.08) | -0.007 (0.14) |
| ROA | 1.033*** (0.00) | 0.089*** (0.00) | 0.026** (0.01) | -0.012 (0.27) | -0.046*** (0.00) |
| Cash ratio | 0.238 (0.15) | -0.175*** (0.00) | 0.051** (0.03) | 0.033** (0.03) | 0.076*** (0.00) |
| Log GNP | 0.504*** (0.00) | 0.014 (0.14) | 0.001 (0.98) | 0.001 (0.98) | 0.001 (0.79) |
| Mkt cap./GDP | | | | -0.001 (0.36) | 0.001 (0.11) |
| Constant | 3.359** (0.03) | 0.441*** (0.00) | 0.003 (0.98) | -0.003 (0.96) | 0.055 (0.27) |
| Observations | 23723 | 23723 | 23723 | 23701 | 23701 |
| Adjusted R2 | 0.136 | 0.143 | 0.119 | 0.167 | 0.103 |

Table 5: CEO tournament structures

This table shows the multivariate estimation where the dependent variable is a measure of the CEO tournament structure and the independent variables are potential determinants, all of which are lagged one year. The different tournament measures compare the CEO’s compensation to that of the top 3 other executives: the CEO Pay Ratio [total compensation/mean others] and the CEO Pay Ratio using the median compensation of other executives; the CEO pay gap (the difference in total compensation between the CEO and the median of other executives), the CEO Pay Slice (the percentage of executive compensation that goes to the CEO),and CEO-E Pay Slice and CEO-NE Pay Slice (the percentage of equity and non-equity compensation that goes to the CEO). For each variable, the coefficient is on the first line and p-value is on the second line. We control for robust standard errors clustered by country as well as country, industry and year fixed effects. ***, **, * denote significance at the 1%, 5% and 10% levels, respectively.

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---------------------|-------------------------------|---------------------------------|--------------------------|------------------------|----------------------------|-----------------------------|
| | CEO Pay Ratio-Mean | CEO Pay Ratio-Median | CEO Pay Slice | CEO Pay Gap | CEO-E Pay Slice | CEO-NE Pay Slice |
| Non-U.S. | -0.382*** (0.00) | -0.463*** (0.00) | -0.022* (0.08) | -0.909*** (0.00) | -0.001 (1.00) | 0.003 (0.89) |
| Log revenue | 0.008 (0.63) | 0.018 (0.46) | -0.005*** (0.00) | 0.299*** (0.01) | -0.004 (0.14) | -0.009*** (0.00) |
| Debt ratio | 0.054 (0.29) | 0.074 (0.16) | 0.003 (0.69) | 0.006 (0.95) | 0.013* (0.09) | 0.003 (0.68) |
| ROA | 0.138 (0.15) | 0.151* (0.09) | 0.056*** (0.00) | -0.286 (0.23) | 0.041** (0.04) | 0.074*** (0.00) |
| Cash ratio | 0.149 (0.13) | 0.183** (0.05) | -0.014 (0.20) | 0.543*** (0.00) | -0.035*** (0.00) | -0.022 (0.12) |
| Log GNP | -0.076* (0.08) | -0.114** (0.05) | 0.005 (0.40) | 0.055 (0.31) | 0.020 (0.39) | 0.004 (0.70) |
| Constant | 2.367*** (0.00) | 2.866*** (0.00) | 0.264*** (0.00) | -1.356* (0.07) | 0.069 (0.78) | 0.263*** (0.01) |
| Observations | 21389 | 21389 | 21389 | 21389 | 13604 | 21385 |
| Adjusted R2 | 0.039 | 0.037 | 0.073 | 0.172 | 0.043 | 0.062 |

Table 6: Correlations of Culture, Economic and Legal Attributes

This table reports correlations of measures of culture from Hofstede (1980) and the World Values Survey, economic variables from the CIA, and the Durnev-Kim (2005) investor protection variable. The variables are described in the Appendix. Shaded cells are correlations significant at the 10% level or better.

| | GNP_ per capita | Power distance | Individualism | Fair income differences | Income inequality | Hardwork | Competition | Revised LLSV * ROL | Gini |
|------------------------------------|--------------------------------|---------------------------|----------------------|--|------------------------------|-----------------|--------------------|-----------------------------------|-------------|
| GNP_per_capita | 1 | | | | | | | | |
| Power distance | -0.54 | 1 | | | | | | | |
| Individualism | 0.51 | -0.3131 | 1 | | | | | | |
| Fair Income differences | 0.50 | -0.0858 | 0.6036 | 1 | | | | | |
| Income inequality | 0.25 | -0.0348 | 0.7052 | 0.5529 | 1 | | | | |
| Hardwork | 0.22 | 0.1334 | 0.4249 | 0.4692 | 0.5278 | 1 | | | |
| Competition | 0.02 | -0.1843 | .3184 | 0.5928 | 0.4796 | 0.7144 | 1 | | |
| Revised LLSV * | | | | | | | | 1 | |
| ROL | 0.16 | -0.4346 | 0.1095 | -0.4314 | -0.2844 | -0.4554 | -0.4697 | | 1 |
| Gini | -0.17 | 0.2722 | -0.198 | 0.4554 | 0.5783 | 0.7659 | 0.5718 | -0.6934 | 1 |

Table 7: CEO Tournaments and Cultural Values

This table shows the multivariate estimation where the dependent variable is CEO Pay Ratio (total CEO pay divided by the mean of total top three non-CEO executives). The culture variables include Power distance, Individualism, Fair income differences, Income inequality, Hardwork, and Competition. These variables are described in the Appendix. GNP per capita is orthogonalized against culture attributes to which it is significantly correlated. For each variable, the coefficient is on the first line and p-value is on the second line in parentheses. Panel A reports regressions with each of the cultural variables separately. Panel B reports regressions with cultural variables included in the regressions. Also added are the legal and economic variables: Revised LLSV * ROL and Gini coefficient. We control for robust standard errors clustered by country as well as industry and year fixed effects. ***, **, * denote significance at the 1%, 5% and 10% levels, respectively.

Panel A.

| | (1) | (2) | (3) | (4) | (5) | (6) |
|--------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Non-US | -0.396*** (0.00) | -0.366*** (0.00) | -0.330*** (0.00) | -0.373*** (0.00) | -0.379*** (0.01) | -0.422*** (0.00) |
| Size | 0.011 (0.51) | 0.017 (0.27) | 0.014 (0.36) | 0.014 (0.36) | 0.014 (0.38) | 0.013 (0.43) |
| Debt ratio | 0.057* (0.11) | 0.062* (0.07) | 0.058* (0.11) | 0.059* (0.09) | 0.060* (0.07) | 0.059* (0.08) |
| ROA | 0.073 (0.40) | 0.049 (0.61) | 0.065 (0.48) | 0.061 (0.51) | 0.064 (0.49) | 0.065 (0.48) |
| Cash ratio | 0.066 (0.34) | 0.063 (0.36) | 0.064 (0.35) | 0.065 (0.34) | 0.067 (0.32) | 0.064 (0.36) |
| Log(GNP per capita) | 0.003 (0.96) | -0.119* (0.10) | -0.095* (0.06) | -0.059 (0.39) | -0.029 (0.77) | -0.059 (0.41) |
| Power Distance | 0.007** (0.05) | | | | | |
| Individualism | | 0.004 (0.19) | | | | |
| Fair Income Differences | | | 0.003* (0.08) | | | |
| Income Inequality | | | | 0.068 (0.21) | | |
| Hardwork | | | | | 0.048 (0.67) | |
| Competition | | | | | | 0.201* (0.09) |
| Constant | 1.513*** (0.00) | 1.418*** (0.00) | 1.457*** (0.00) | 2.103*** (0.01) | 1.773 (0.13) | 2.118** (0.01) |
| Observations | 19,674 | 19,674 | 19,674 | 19,674 | 19,674 | 19,674 |
| Adjusted R2 | 0.045 | 0.045 | 0.045 | 0.045 | 0.045 | 0.045 |

Panel B.

| | (1) | (2) |
|----------------------------------|--------------------|---------------------|
| Non-US | -0.034 (0.85) | -0.040 (0.84) |
| Size | 0.019 (0.18) | 0.025 (0.14) |
| Debt ratio | 0.056 (0.13) | 0.049 (0.41) |
| ROA | 0.046 (0.63) | -0.037 (0.55) |
| Cash ratio | 0.063 (0.31) | 0.048 (0.74) |
| Return Standard Deviation | | -0.121*** (0.00) |
| Log(GNP per capita) | 0.075 (0.63) | 0.141 (0.44) |
| Power Distance | 0.018*** (0.00) | 0.016*** (0.00) |
| Individualism | 0.013 (0.16) | 0.014 (0.14) |
| Fair Income Differences | 0.003** (0.03) | 0.003* (0.09) |
| Income Inequality | 0.009 (0.93) | 0.023 (0.81) |
| Hardwork | 0.027 (0.84) | -0.050 (0.72) |
| Competition | 0.305*** (0.01) | 0.318** (0.02) |
| Revised LLSV * ROL | 0.001 (0.94) | -0.009 (0.42) |
| Gini Coefficient | 0.001 (0.87) | 0.003 (0.59) |
| Constant | 1.277*** (0.00) | 1.233*** (0.00) |
| Observations | 19,674 | 15,154 |
| Adjusted R2 | 0.048 | 0.043 |

Table 8: Tournament Structure and Firm Value

This table shows the multivariate estimation where the dependent variable is Tobin's q and the independent variables are all lagged one year. The CEO tournament (CEO T) is total CEO pay divided by the mean of total top four non-CEO executives pay (CEO Total/Mean Others). P-values are in parenthesis. ***, **, * denote significance at the 1%, 5% and 10% levels, respectively. We control for robust standard errors clustered by country as well as country, industry and year fixed effects.

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|-----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------|---------------------|
| | All | N. America | Europe | Nordic | Oceania | Asia | M. East | Africa |
| CEO tournament | 0.044*** (0.00) | 0.018*** (0.00) | 0.032*** (0.00) | 0.034* (0.08) | 0.334*** (0.00) | 0.023 (0.74) | 0.166 (0.21) | 0.008*** (0.00) |
| Non-US | 0.165 (0.48) | | | | | | | |
| Size | -0.162*** (0.00) | 0.060*** (0.00) | 0.067*** (0.00) | -0.019 (0.93) | -0.244*** (0.00) | 0.110** (0.04) | -0.194 (0.44) | 0.076*** (0.00) |
| Debt | 0.252 (0.45) | -0.096*** (0.00) | -0.398*** (0.00) | -2.644*** (0.00) | -1.217*** (0.00) | -2.349** (0.01) | 0.061 (0.98) | -1.946*** (0.00) |
| Cash | 5.140*** (0.00) | 1.193*** (0.00) | 1.485*** (0.00) | 2.644** (0.05) | 5.491*** (0.00) | 1.625 (0.25) | 2.791 (0.21) | 1.341*** (0.00) |
| Log GNP | -0.038 (0.77) | -0.321* (0.07) | 0.074 (0.30) | -0.714 (0.56) | 0.305*** (0.01) | -0.494*** (0.01) | 0.917 (0.12) | 0.597 (0.78) |
| Constant | 3.169** (0.02) | 4.578** (0.02) | 0.748 (0.33) | 10.313 (0.48) | -0.732* (0.10) | 6.294*** (0.00) | -7.354 (0.14) | -0.943 (0.96) |
| Observations | 20,922 | 12,753 | 3,682 | 442 | 2,023 | 1,593 | 60 | 366 |
| Adj. R-squared | 0.068 | 0.141 | 0.136 | 0.144 | 0.118 | 0.083 | 0.455 | 0.119 |

Table 9: Tournament Structure, Firm Value and Culture

This table shows the multivariate estimation where the dependent variable is Tobin's q and the independent variables are all lagged one year. The CEO tournament (CEO T) is total CEO pay divided by the mean of total top four non-CEO executives pay (CEO Total/Mean Others). P-values are in parenthesis. ***, **, * denote significance at the 1%, 5% and 10% levels, respectively. We control for robust standard errors clustered by country as well as industry and year fixed effects.

| | (1) | (2) |
|--|---------------------|--------------------|
| CEO tournament | 0.163 (0.71) | 0.043 (0.45) |
| Size | -0.148*** (0.00) | -0.007 (0.17) |
| Debt | 0.459 (0.12) | 0.305*** (0.00) |
| Cash | 5.423*** (0.00) | 1.845*** (0.00) |
| Return Standard Deviation | | 0.124*** (0.00) |
| Log GNP | 3.138*** (0.00) | 0.441 (0.14) |
| CEO Pay Ratio*Power Distance | 0.007 (0.12) | 0.000 (0.82) |
| CEO Pay Ratio*Individualism | 0.003 (0.75) | -0.002 (0.36) |
| CEO Pay Ratio*Fair Income Differences | 0.001 (0.78) | 0.001 (0.22) |
| CEO Pay Ratio*Income Inequality | 0.040 (0.53) | -0.008 (0.69) |
| CEO Pay Ratio*Hardwork | -0.121 (0.30) | 0.007 (0.73) |
| CEO Pay Ratio*Competition | 0.204** (0.05) | 0.205** (0.04) |
| CEO Pay Ratio*ROL | 0.016 (0.22) | 0.002 (0.30) |
| CEO Pay Ratio*Gini Coefficient | -0.003 (0.75) | 0.001 (0.31) |
| Constant | 37.569*** (0.00) | 1.616*** (0.00) |
| Observations | 19,260 | 15,153 |
| Adj. R-squared | 0.086 | 0.286 |

Figure 1

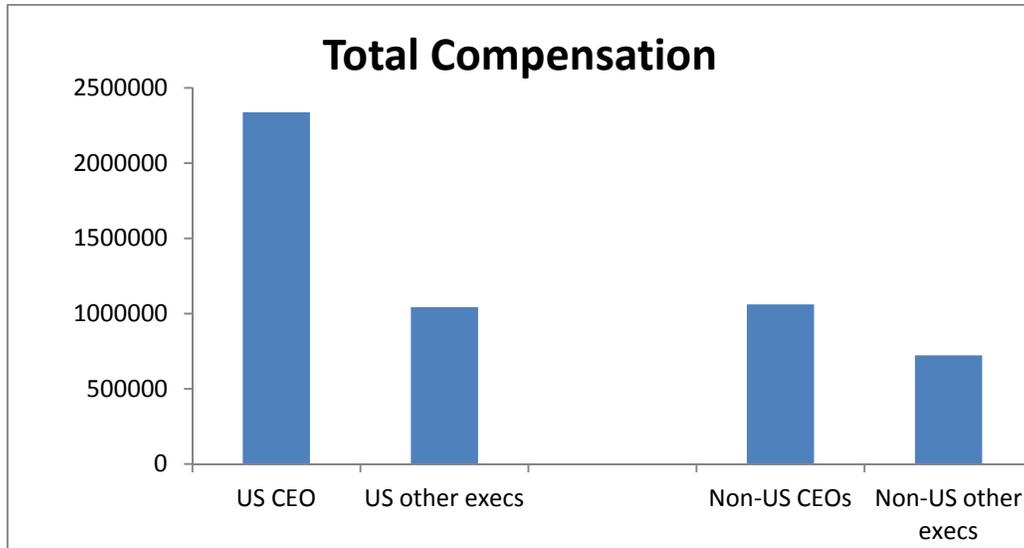
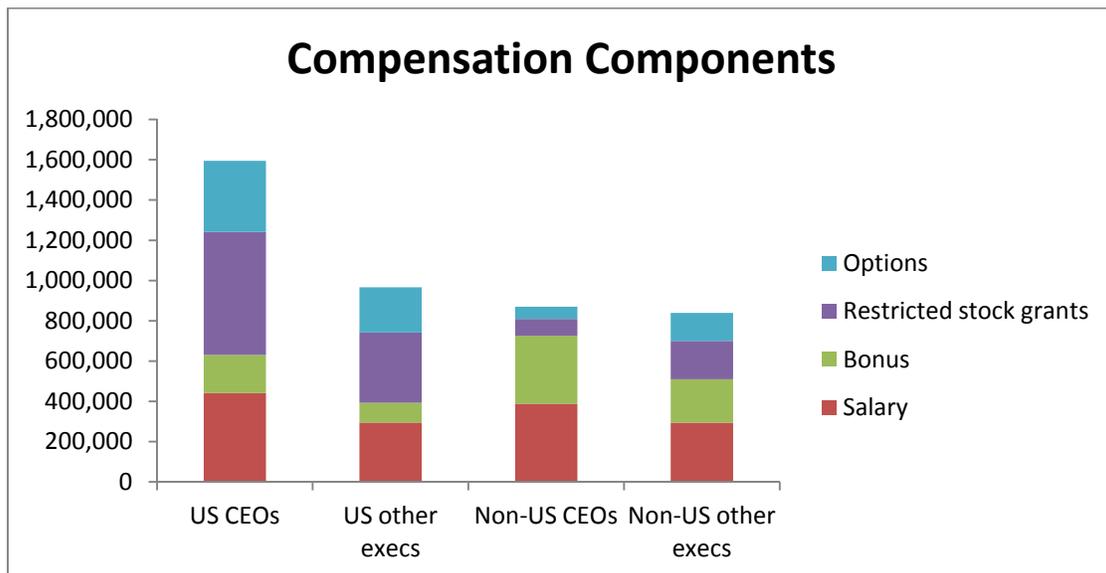


Figure 2



Appendix

Table A1 Description of Cultural Attributes

This table describes the culture attributes from Hofstede (1980) and the World Value Survey.

| Variable | Description |
|-------------------------|--|
| Power distance | The degree to which people in the society are comfortable with power differentials – higher numbers correspond to more comfort with power differentials (Hofstede, 1980) |
| Individualism | The degree to which people in the society are individualistic. Higher scores imply higher individualism. (Hofstede, 1980). |
| Fair Income Differences | The degree to which people in a society consider differences in income to be fair based on the answer to the question: Imagine two secretaries, of the same age, doing practically the same job. One finds out that the other earns considerably more than she does. The better paid secretary, however, is quicker, more efficient and more reliable at her job. In your opinion, is it fair or not fair that one secretary is paid more than the other? A value of 1 is Fair; 0 is Not Fair. Our measure is the % positive responses in a country - % negative responses + 100. Thus, the range is from 0 (corresponding to Not Fair) to 200 (corresponding to Fair). World Values Survey. |
| Income_inequality | The degree to which people in a society believe that income differences can provide incentives: Incomes should be made more equal vs We need larger income differences as incentives, scale of 1 to 10 where a value of 10 is ‘We need larger income differences as incentives.’ We measure the average response. Higher numbers correspond to income differences being perceived as desirable. World Values Survey. |
| Competition | The degree to which people in a society believe competition to be good: It stimulates people to work hard and develop new ideas vs Competition is harmful. It brings the worst in people. Scale of 1 to 10 where 10 is ‘Competition is harmful.’ World Values Survey. (We measure the average response, but reverse the sign so that less negative numbers correspond to Competition being more desirable.) |
| Hardwork | The degree to which people in a society believe hard work brings success vs. Hard work doesn’t generally bring success – it’s more a matter of luck and connections. Scale of 1 to 10 where 10 is ‘Hard work doesn’t generally bring success – it’s more a matter of luck and connections.’ World Values Survey. . (We measure the average response, but reverse the sign so that less negative numbers correspond to Hard Work being more desirable.) |
| Revised LLSV * ROL | Measure of a county’s legal environment using the Durnev and Kim (2005) legal variable, equal to the product of anti-director rights and rule of law, where the anti-director rights index is from Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2008). |
| Gini Coefficient | The Gini coefficient measures the inequality among values of a frequency distribution (for example levels of income). A Gini coefficient of zero expresses perfect equality where all values are the same (for example, where everyone has an exactly equal income). A Gini coefficient of one (100 on the percentile scale) expresses maximal inequality among values (for example where only one person has all the income). |
| Log GNP | Log of the country’s GNP |
| Mkt cap./GDP | The country’s market capitalization adjusted by the country’s GDP. |

Questions from the World Values Survey

Fair Income Differences:

Imagine two secretaries, of the same age, doing practically the same job. One finds out that the other earns considerably more than she does. The better paid secretary, however, is quicker, more efficient and more reliable at her job. In your opinion, is it fair or not fair that one secretary is paid more than the other?

0 Not Fair

1 Fair

Income Inequality:

How would you place your views on this scale? 1 means you agree completely with the statement on the left; 10 means you agree completely with the statement on the right; and if your views fall somewhere in between, you can choose any number in between. Sentences:

Incomes should be made more equal vs. We need larger income differences as incentives

Competition:

How would you place your views on this scale? 1 means you agree completely with the statement on the left; 10 means you agree completely with the statement on the right; and if your views fall somewhere in between, you can choose any number in between. Sentences:

Competition is good. It stimulates people to work hard and develop new ideas vs. Competition is harmful. It brings the worst in people

Hardwork:

How would you place your views on this scale? 1 means you agree completely with the statement on the left; 10 means you agree completely with the statement on the right; and if your views fall somewhere in between, you can chose any number in between.

*In the long run, hard work usually
brings a better life*

vs. *Hard work doesn't generally bring success
- it's more a matter of luck and
connection*

Table A2
Country Cultural Values

These values are derived from Hofstede (1980) and the World Values Survey 2005-2008.

| | log(GNP_ per capita) | Power distance | Individualism | Fair Income differences | Income inequality | Hardwork | Competition | Revised LLSV * ROL | GINI |
|----------------------|----------------------------|-------------------|---------------|-------------------------------|----------------------|----------|-------------|--------------------------|-------|
| North America | | | | | | | | | |
| United States | 10.74 | 40 | 91 | 181.45 | 6.10 | 3.81 | 3.43 | 30.00 | 45.00 |
| Canada | 10.53 | 39 | 80 | 158.37 | 5.56 | 3.95 | 3.79 | 40.00 | 32.10 |
| Europe | | | | | | | | | |
| Austria | 10.65 | 11 | 55 | 177.23 | 4.09 | 4.07 | 3.59 | 25.00 | 26.00 |
| Belgium | 10.64 | 65 | 75 | 142.01 | 5.51 | 4.83 | 4.73 | 30.00 | 28.00 |
| Channel Islands | 11.01 | | | | | | | | |
| Cyprus | 10.15 | | | 180.11 | 5.09 | 4.70 | 4.28 | | 29.00 |
| Czech Republic | 9.34 | 57 | 58 | 193.32 | 5.49 | 5.13 | 3.22 | | 26.00 |
| France | 10.57 | 68 | 71 | 154.43 | 5.07 | 5.17 | 4.96 | 31.43 | 32.70 |
| Germany | 10.57 | 35 | 67 | 166.82 | 4.35 | 5.04 | 3.76 | 32.31 | 27.00 |
| Italy | 10.42 | 50 | 76 | 145.55 | 5.92 | 5.31 | 4.43 | 20.83 | 32.00 |
| Liechtenstein | 11.04 | | | | | | | | |
| Luxembourg | 11.04 | 40 | 60 | 162.36 | 6.60 | | 4.50 | | 26.00 |
| Netherlands | 10.71 | 38 | 80 | 150.96 | 5.81 | 5.04 | 4.63 | 25.00 | 30.90 |
| Poland | 9.24 | 68 | 60 | 159.35 | 6.07 | 5.94 | 4.65 | | 34.20 |
| Portugal | 9.94 | 63 | 27 | 150.94 | 4.78 | 5.85 | 4.38 | 21.70 | 38.50 |
| Russia | 8.66 | 93 | 39 | 186.43 | 6.75 | 5.27 | 4.21 | | 40.95 |
| Slovenia | 9.98 | 71 | 27 | 172.01 | 4.26 | 4.17 | 3.83 | | 26.97 |
| Spain | 10.26 | 57 | 51 | 134.35 | 5.18 | 4.33 | 4.42 | 39.00 | 32.00 |
| Switzerland | 10.96 | 34 | 68 | 167.84 | 4.43 | 5.28 | 3.70 | 30.00 | 33.70 |
| United Kingdom | 10.65 | 35 | 89 | 146.51 | 5.46 | 4.62 | 4.10 | 42.85 | 34.00 |
| Ukraine | 8.07 | | | 173.56 | 7.66 | 5.07 | 4.72 | | 27.50 |

| | log(GNP_ per capita) | Power distance | Individualism | Fair Income differences | Income inequality | Hardwork | Competition | Revised LLSV * ROL | Revised LLSV * ROL |
|---------------------|----------------------------|-------------------|---------------|-------------------------------|----------------------|----------|-------------|--------------------------|--------------------------|
| Nordic | | | | | | | | | |
| Denmark | 10.92 | 18 | 74 | 164.03 | 6.72 | 6.06 | 4.00 | 40.00 | 29.00 |
| Finland | 10.67 | 33 | 63 | 159.23 | 4.92 | 3.60 | 4.12 | 35.00 | 26.80 |
| Norway | 11.04 | 31 | 69 | 109.71 | 5.31 | 5.02 | 3.53 | 35.00 | 25.00 |
| Sweden | 10.78 | 31 | 71 | 160.77 | 5.99 | 4.55 | 3.42 | 35.00 | 23.00 |
| Oceania | | | | | | | | | |
| Australia | 10.52 | 36 | 90 | 167.66 | 5.67 | 4.31 | 3.77 | 40.00 | 30.50 |
| New Zealand | 10.18 | 28 | 79 | 181.13 | 5.43 | 3.98 | 3.27 | 40.00 | 36.20 |
| Papua New Guinea | 7.47 | | | | | | | | 50.90 |
| Asia | | | | | | | | | |
| Cambodia | 7.47 | | | | | | | | 44.40 |
| China | 7.88 | 80 | 20 | 174.21 | 5.90 | 3.63 | 3.27 | | 41.50 |
| Hong Kong | 10.3 | 68 | 25 | 171.92 | 4.78 | | 3.81 | 41.10 | 53.30 |
| India | 7.47 | 77 | 48 | 130.74 | 4.72 | 3.33 | 2.83 | 22.10 | 36.80 |
| Kazakhstan | 8.51 | | | | | | | | 28.30 |
| Macau | 10.56 | | | | | | | | |
| Pakistan | 7.47 | 55 | 14 | | 3.83 | 4.36 | 4.07 | 17.68 | 30.60 |
| Philippines | 7.47 | 94 | 32 | 136.56 | 6.56 | 3.79 | 4.06 | 17.68 | 45.80 |
| Singapore | 10.43 | 74 | 20 | 181.37 | 6.96 | | 3.36 | 42.85 | 48.06 |
| Thailand | 8.04 | 64 | 20 | 163.74 | 7.07 | 5.14 | 4.75 | 25.00 | 51.28 |
| Turkey | 9.09 | | | | | | | | |
| Vietnam | 7.47 | 70 | 20 | 185.18 | 6.07 | 3.46 | 3.78 | | 37.60 |
| Middle East | | | | | | | | | |
| Israel | 10.05 | 13 | 54 | | 3.77 | | | 19.28 | 39.20 |
| Jordan | 8.21 | | | 159.28 | 6.97 | 3.76 | 2.44 | 11.05 | 39.70 |

Africa

| | | | | | | | | | |
|--------------|------|----|----|--------|------|------|------|-------|-------|
| Botswana | 8.75 | | | | | | | | 63.00 |
| Egypt | 7.5 | 80 | 25 | 193.86 | 6.76 | 2.46 | 2.70 | 13.26 | 34.40 |
| Mauritius | 8.81 | | | | | | | | 39.00 |
| Namibia | 8.36 | | | | | | | | 70.70 |
| South Africa | 8.59 | 49 | 65 | 125.85 | 5.53 | 3.01 | 3.51 | 22.10 | 65.00 |

South America

| | | | | | | | | | |
|-----------|------|----|----|--------|------|------|------|-------|-------|
| Argentina | 8.88 | 49 | 46 | 108.21 | 5.33 | 4.99 | 4.71 | 13.38 | 45.80 |
| Chile | 9.16 | 63 | 23 | 136.74 | 4.78 | 5.17 | 4.86 | 28.08 | 52.10 |
| Colombia | 8.34 | 67 | 20 | 121.36 | 5.50 | 4.88 | 3.67 | 13.26 | 58.50 |
| Mexico | 9.21 | 80 | 30 | 140.37 | 6.11 | 3.35 | 3.22 | 16.05 | 51.70 |
| Peru | 8.29 | 64 | 16 | 154.32 | 7.48 | 4.61 | 3.41 | 19.89 | 48.00 |
