Cultural Origins and CEO Incentive Contracts

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December 20, 2013

Abstract

Despite the importance of managerial characteristics in determining CEO incentives, empirical research on this topic is scarce. Using a sample of U.S. companies from 1992 to 2011, I show that the CEOs' cultural origins are economically important determinants of incentive contracts. Cultural origins can explain 5% of the observed variation in pay-performance-sensitivity, compared to 1% explained by other CEO-specific factors documented in the literature such as birth year, gender, and education. Examining potential explanations for this empirical pattern, I find that systematic differences in CEO incentives across cultural origins are related to cultural attitudes regarding the intrinsic and extrinsic value of work. I do not find evidence that the relation is driven by skill or risk aversion.

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I. Introduction

As emphasized by Baker, Jensen, and Murphy (1988): "a thorough understanding of internal incentives is critical to developing a viable theory of the firm, since they largely determine how individuals behave in organizations."[1] While most empirical studies focus on firm-level determinants of CEO incentives, recent studies by Graham, Li, and Qiu (2012) and Coles and Li (2012) show that a majority of the heterogeneity in executive compensation is actually driven by manager fixed effects. However, little is known about which managerial attributes matter due to data and measurement difficulties.

In this paper, inspired by a growing strand of literature in economics documenting the importance of culture in determining individual outcomes, I examine empirically whether the CEO's cultural origins are important determinants of CEO incentive contracts.[2] By doing so, I seek to add to our understanding of how key agents are compensated and motivated in organizations.

CEOs from different cultural origins can have different cultural attitudes that impact the design of optimal incentive contracts. While many economic models focus solely on monetary incentives, experimental evidence from psychology (e.g., Deci (1975), Deci, Koestner, and Ryan (1999)) suggests that individuals also respond to intrinsic rewards such as pleasure and satisfaction from doing the task itself. The relative importance of intrinsic and extrinsic rewards can vary across individuals, partly driven by their personalities and cultural backgrounds that influence their needs and desires (Eisenberger, Pierce, and Cameron (1999)). Thus, CEOs from different cultural origins can have different attitudes regarding the intrinsic and extrinsic value of work that impact the design of monetary incentives. Additionally, cultural origins can also affect the optimal incentive strength by influencing risk attitudes.

[1] For surveys of the compensation literature, see Murphy (1999), Core, Guay, and Larcker (2003), Edmans and Gabaix (2009), and Frydman and Jenter (2010).
[2] See Guiso, Sapienza, and Zingales (2006) for a recent survey.

To examine the effect of cultural origins on extrinsic incentive contracts, I focus on a single country, the United States, and examine whether extrinsic CEO incentives vary systematically across CEOs' cultural origins. Compared to a cross-country setting, this approach holds constant important economic and institutional differences across countries that can impact the design of incentive contracts. By analyzing CEOs of different cultural origins working in the same set of firms, I can also control for persistent differences across firms by including firm fixed effects.

The main tests are conducted on a sample of 706 CEOs working in 289 U.S. companies, whose cultural origins are identified based on their country of birth. The sample period is from 1992 to 2011. Using biographies from *Marquis Who's Who*, Forbes, the Notable Names Database (NNDB), and online searches, I identify 280 foreign-born CEOs whose employers are publicly traded firms that are headquartered and incorporated in the U.S and whose compensation information is available in Execucomp. Based on the 289 employers of these foreign-born CEOs, I add to the sample 426 U.S-born CEOs that have worked in the same set of firms from 1992 to 2011. Using this sample, I explore two research questions. The first one examines whether cultural origins matter for CEO incentives and the second investigates why cultural origins matter.

To answer the first research question, I create country of origin dummies based on the CEO's country of birth and test whether these dummies are jointly significant in pay-performance-sensitivity regressions, while controlling for CEO time-variant and invariant characteristics, firm time-variant characteristics, firm fixed effects, and year fixed effects. Following the prior literature, the level of explicit CEO incentives is measured as either the natural logarithm of the Jensen-Murphy statistic (dollar change in CEO wealth for a $1,000 change in firm value) or the natural logarithm of the Equity-at-Stake statistic (dollar change in CEO wealth for a 1% change in firm value).

Three findings emerge, which collectively suggest that cultural origins are statistically and economically important determinants of CEO incentives. First, an F-test that the coefficients on the country of origin dummies are equal is strongly rejected at the 1% significance level. Second, the interquartile range of the fixed effects is 0.845, which is more than half of the standard deviation of the incentive measures. Third, the variance decomposition analysis shows that the country of origin dummies can explain around 5% of the observed variation. This effect is meaningful given that other CEO-specific factors such as birth year, gender, education, MBA degree, selective college, and military experience together only explain around 1% of the observed variation.

Further analysis reveals that CEO incentives do not vary randomly across cultural origins. In particular, I find that CEOs from countries with higher GDP per capita, less corruption, and more Protestants have weaker monetary incentives. One interpretation of this finding is that CEOs from these countries tend to emphasize the intrinsic value of work over monetary gains. Given the significance of these variables in explaining the country of origin effects, I create a cultural origin proxy based on their first principal component and use it directly in pay-performance-sensitivity regressions as an alternative way of testing whether cultural origins matter. Consistent with the dummies approach, the cultural origin proxy is significantly negatively related to CEO incentives. Economically, a one standard deviation increase in the cultural origin proxy decreases the level of incentives by 9.5%.

To explore the second research question, I examine several potential explanations of why cultural backgrounds matter. The main explanation is that CEOs from different countries have different cultural attitudes toward work and risk that affect their level of incentives.

The work attitudes channel posits that cultural origins can influence CEOs' attitudes toward the value of work, especially regarding the relative importance of monetary compensation and intrinsic rewards such as feelings of satisfaction and accomplishment derived from the work itself. If intrinsic motivation and extrinsic incentives are substitutes, then CEOs

from cultures that emphasize the intrinsic value of work should receive fewer monetary incentives than CEOs from cultures that view work as just a way of making money. If intrinsic motivation and extrinsic incentives are complements, then these CEOs should receive more monetary incentives. Since CEOs' work attitudes cannot be measured directly, I use five related questions from the U.S. General Social Survey to test whether responses to these questions are related to CEO incentives across cultural origins.[3]

The first key finding is that responses to these survey questions systematically vary across cultural origins, suggesting that work attitudes have an important cultural component. The second key finding is that CEOs from cultures that emphasize the intrinsic value of work over monetary gains receive weaker monetary incentives, consistent with intrinsic motivation and extrinsic incentives being substitutes. To address the potential concern that a CEO may not be a typical immigrant, I use only respondents in managerial and professional occupations to make the survey sample more comparable to the CEO sample and obtain similar results.

The risk attitudes channel posits that CEOs from more risk-averse cultures should receive weaker monetary incentives based on the negative tradeoff between risk and incentives in the classic agency models (Holmstrom, 1979). To test this channel directly, I use the U.S. General Social Survey and examine responses to risk-related questions such as the importance of job security and participation in the stock market. Moreover, I examine five corporate policy measures (leverage, cash, capital expenditures, R&D expenditures, and stock volatility) based on the idea that less risk-averse CEOs should implement riskier corporate policies. However, I do not find consistent evidence in support of the risk attitudes channel from these analyses.

There are several potential alternative explanations of the above findings. First, the observed differences in CEO incentives across cultural origins can be driven by systematic differences in skill. Second, CEOs from different countries of origin can have systematically different levels of outside wealth that affect the provision of incentives. Third, differences in

[3] For the U.S. General Social Survey data, cultural origins are identified based on responses to the following question: "from what countries or part of the world did your ancestors come?"

CEO incentives across cultural origins can be driven by non-cultural related labor market conditions in the CEO's birth country through his outside employment opportunities in that country. I examine these alternative explanations, but do not find evidence that they are the main drivers of the differences in CEO incentives across cultural origins.

Finally, the main finding that cultural origins are important determinants of CEO incentives is obtained for a sample of 280 foreign-born CEOs and 426 U.S.-born CEOs at 298 firms. Since most people in the U.S. are immigrants with ancestors from different parts of the world, I can also extend the main analysis to a larger sample of U.S.-born CEOs in Execucomp. Using U.S. Census records and a commercial database to identify CEOs' cultural origins based on their family names, I find that CEO incentives are also systematically different across cultural origins in this sample of 3,434 CEOs at 2,280 firms. Furthermore, a one standard deviation increases in the cultural origin proxy decreases the level of incentives by 4.7%. This effect is consistent with, although smaller than the original effect of 9.5% for the main sample, possibly due to the impact of culture attenuating over time.

The paper makes several important contributions to the literature. Foremost, the study contributes to the literature (e.g., Bertrand and Schoar (2003)) examining the importance of managerial characteristics in determining corporate policies and firm performance. In particular, it adds to a small set of papers examining the effect of managerial characteristics on incentive contracts.[4] Milbourn (2003) documents a positive relation between proxies of CEO reputation and stock-based compensation. Becker (2006) uses Swedish data to show that CEOs with higher outside wealth receive stronger incentives. Using a survey of U.S. CEOs, Graham, Harvey, and Puri (2013) find evidence that CEOs' reported risk preferences are related to their compensation structure. My study complements these findings by demonstrating the importance of the CEOs' cultural origins in determining incentive contracts.

[4] There are also a few empirical studies examining the effect of CEO attributes on the level of pay. For instance, Falato, Li, and Milbourn (2011) study observable CEO talent and Custódio, Ferreira, and Matos (2013) study general managerial skills acquired through work experience.

The study also adds to a largely theoretical literature on the role of intrinsic motivation in optimal contract design. Although Bénabou and Tirole (2003) emphasize the importance of intrinsic vs. extrinsic incentives, there is little empirical evidence on this topic besides experimental findings. Jensen and Murphy (1990) estimate pay-performance sensitivities of CEO compensation contracts and conclude that they are too low to properly align the interests of managers and shareholders. However, weak incentives are not necessarily disconcerting if they partly reflect a stronger emphasis on intrinsic rewards rather than monetary gains obtained from work. Moreover, this study suggests that governance proposals aimed at uniformly increasing the strength of monetary incentives can be counterproductive because the optimal mix of intrinsic and extrinsic incentives can vary across firms based on the cultural backgrounds of their CEOs.

More broadly, the paper contributes to the economics literature documenting the importance of culture in determining individual outcomes such as labor choices (Fernández and Fogli (2009)), family living arrangements (Giuliano (2007)), the propensity to shirk at work (Ichino and Maggi (2000)), parking violations (Fisman and Miguel (2007)), and savings behavior (Guiso, Sapienza, and Zingales (2006)). There is also a growing finance literature studying the effect of culture on corporate outcomes such as investment (Hilary and Hui (2008)) and cross-border mergers (Ahern, Daminelli, and Fracassi (2012)). My study adds to these streams of literature by showing that culture can also play a role in deciding how key agents are compensated and motivated in organizations.

The paper proceeds as follows. Section II discusses the relation between cultural origins and monetary incentives. Section III describes the data. Section IV examines whether cultural origins matter for incentive contracts. Section V analyzes why cultural origins matter. Section VI extends the main analysis to a large sample. Section VII concludes.

II. Cultural Origins and Monetary Incentives

CEOs from different cultural origins can have different cultural attitudes that impact the design of optimal incentives. In particular, cultural origins can affect the CEOs' risk attitudes. In the classic agency models (e.g., Holmstrom (1979), Holmstrom and Milgrom (1987)), higher performance pay not only induces greater effort exertion from the agent, but also increases the risk of wage contract since performance measures are noisy indicators of true effort levels. The cost of imposing risk on a risk-averse agent is higher, thus firms prefer to offer weaker incentive contracts to these agents.

Besides influencing risk attitudes, a CEO's cultural background can also influence his attitudes toward the value of work, especially regarding the relative importance of monetary compensation and intrinsic rewards such as feelings of satisfaction and accomplishment derived from the work itself.

The current theoretical literature on the role of intrinsic motivation in optimal contract design generally predicts two opposing effects of intrinsic motivation on the provision of incentive contracts. On one hand, intrinsic motivation and monetary incentives can be substitutes. For instance, in Besley and Ghatak (2005), an agent with greater intrinsic motivation will supply higher effort for a given level of incentive pay. Since incentive pay is a costly instrument to elicit effort from the principal's point of view and intrinsic motivation is a substitute for incentive pay, more motivated agents receive lower incentive pay in equilibrium.

Relatedly, Carlin and Gervais (2009) consider a model in which agents are either egoistic or virtuous. The egoistic agent acts in his own best interest and requires incentives to exert high effort. The virtuous agent is innately diligent and does not pose a moral hazard threat, thus do not require extra incentives to exert high effort. The firm prefers weaker incentive contracts, which reduce the cost of imposing risk on a risk-averse agent. Thus, in equilibrium, virtuous agents receive compensation contracts that are less sensitive to performance. Since intrinsically

motivated agents are less likely to pose a moral hazard threat in the form of shirking, this model also predicts a similar substitution effect as in Besley and Ghatak (2005).

Motivated by the psychology literature (e.g., Deci (1975), Deci, Koestner, and Ryan (1999)) on the crowding out of intrinsic motivation by extrinsic incentives, Bénabou and Tirole (2003) formalize these ideas in a model in which performance incentives offered by an informed principal can adversely impact an agent's perception of the task and of his own abilities. In the long run, performance incentives are shown to reduce effort exertion. Thus, the principal offers low-powered incentives to signal that he trusts the agent to avoid the hidden costs of extrinsic incentives.

On the other hand, intrinsic motivation and monetary incentives can be complements. For intrinsically motivated agents, their cost of effort exertion may be lower. The firm can provide more performance incentives to these agents since the return on a given level of incentive is higher. While intrinsic motivation is commonly modeled as deriving utility from the performance of a task, Murdock (2002) models intrinsic motivation as goal identification, which assumes that some agents have a preference for some intrinsically rewarding projects that are not necessarily financially rewarding. In this case, implicit contracts and intrinsic motivation are shown to be complements, where implicit contracts promise the implementation of some intrinsically valued projects in exchange for higher effort levels in other projects.

The above rationales suggest that CEOs from more risk tolerant cultures should receive higher-powered incentives based on the negative tradeoff between risk and incentives. Moreover, CEOs from cultures that emphasize the intrinsic value of work over monetary gains should receive lower-powered incentives if intrinsic motivation and extrinsic incentives are substitutes and should receive higher-powered incentives if they are complements.

III. Data

To study whether cultural origins matter for the provision of incentive contracts, I focus on CEOs from a single country, the United States, and examine whether incentive contracts systematically differ for CEOs from different cultural backgrounds. I analyze CEOs rather than all top-level executives in order to obtain a more homogenous sample by holding the job title constant across firms and executives.

The main sample includes 706 CEOs employed at 289 publicly traded firms that are headquartered and incorporated in the U.S. The sample period is from 1992 to 2011. Although the sample size is limited by the number of foreign-born CEOs, it is comparable to other studies examining CEO characteristics such as 263 firms in Malmendier, Tate, and Yan (2011) and 336 firms in Adams, Almeida, and Ferreira (2005).

The cultural origins of these CEOs are identified by their countries of birth. Of the 706 CEOs, 280 CEOs were born in a country outside the U.S. and the remaining 426 CEOs were born in the U.S. Table 1 presents the birth country distribution of the 706 CEOs. Of the 47 non-U.S. birth countries, Canada and the United Kingdom have the most number of CEOs, which are 43 and 35, respectively.

To construct this sample, I first find the set of foreign-born CEOs using birth location information from *Marquis Who's Who*, Forbes, NNDB, and online biography searches. I only keep CEOs whose compensation information is available in Execucomp and whose employers are publicly traded firms that are headquartered and incorporated in the U.S. Based on the employers of these foreign-born CEOs, I add to the sample all U.S-born CEOs that have worked in the same set of firms from 1992 to 2011 and whose compensation information is available in Execucomp.

To examine the effect of culture on incentive contracts, a more traditional approach is to test whether country-level cultural proxies can explain differences in incentive contracts across countries. However, given a large number of documented and undocumented economic and

institutional differences across countries and the difficulty of separating cultural from non-cultural factors, running cross-country regressions on cultural proxies has long been considered unsatisfactory (Fernández, 2011).

Using recently developed methodologies from the economics literature, I focus on a single country and examine incentive contracts received by CEOs from different cultural backgrounds. This approach holds constant important economic and institutional differences across countries that can impact the design of incentive contracts. For instance, this setting can control for cross-country differences in insider trading restrictions, which have a significant impact on equity incentives as shown by Denis and Xu (2013). Moreover, by analyzing CEOs from different cultural backgrounds working in the same set of firms, the empirical analysis can also control for persistent differences across firms by including firm fixed effects, which is difficult to do in a cross-country setting.

The final sample consists of 3,624 CEO-year observations with non-missing regressors. To measure the level of CEO incentives, I follow Frydman and Jenter (2010) and use either the natural logarithm of the Jensen-Murphy statistic or the natural logarithm of the Equity-at-Stake statistic. The Jensen-Murphy statistic is the dollar change in CEO wealth for a $1,000 change in firm value, and is calculated as the CEO's fractional equity ownership [(number of shares held + number of options held × average option delta)/(number of shares outstanding)] times $1,000. The Equity-at-Stake statistic is the dollar change in executive wealth for a 1% change in firm value, and is calculated as the CEO's fractional equity ownership [(number of shares held + number of options held × average option delta)/(number of shares outstanding)] times the firm's equity market capitalization. These measures are constructed using data from Execucomp, which provides compensation details for top-five executives in S&P 1500 firms. Option deltas are computed using the Core and Guay (2002) approximation.

I also include a number of CEO time-invariant, CEO time-variant, and firm time-variant controls, which are described in the next section and in the Data Appendix. Several data sources

are used to construct these variables. Firm level characteristics come from Compustat and CRSP. Additional biography data such as the place of birth, educational background, and career history are hand-collected from *Marquis Who's Who*, Forbes, NNDB, BusinessWeek, and online searches.

IV. Do Cultural Origins Matter for CEO Incentives?

A. Country of Origin Fixed Effects

I test whether cultural origins matter for the provision of incentive contracts using the following OLS model:

$$\begin{aligned}\text{Pay-Performance-Sensitivity}_{ijt} = {} & \beta_1(\text{CEO Controls}_j) + \beta_2(\text{CEO-Year Controls}_{jt}) \\ & + \beta_3(\text{Firm-Year Controls}_{it}) \\ & + \text{Firm Fixed Effects}_i + \text{Year Fixed Effects}_t \\ & + \text{Country of Origin Fixed Effects}_k + \epsilon_{ijt}, \qquad (1)\end{aligned}$$

where i indexes firms, j indexes CEOs, k indexes countries of origin, and t indexes time. Pay-performance-sensitivity is measured as either the natural logarithm of the Jensen-Murphy statistic (dollar change in executive wealth for a $1,000 change in firm value) or the natural logarithm of the Equity-at-Stake statistic (dollar change in executive wealth for a 1% change in firm value). CEO controls include the year of birth, a female dummy, number of years educated, a MBA degree dummy, a selective school dummy, and a military experience dummy. These controls are CEO-specific and do not vary with time or firm. CEO-Year controls include the natural logarithm of CEO age, the natural logarithm of CEO tenure, a dummy for director CEOs, a dummy for chairman CEOs, and a dummy for insider CEOs. Firm-Year controls include firm size, age, market-to-book ratio, leverage, profitability, stock returns, and stock volatility. These variables are defined in the Data Appendix and their summary statistics are provided in Table 2.

The country of origin dummies are constructed based on the CEO's country of birth, where the benchmark country is the United States. The null hypothesis is that cultural origins do

not matter for the level of CEO incentives or that the coefficients on the country of origin dummies are equal.

Panel A of Table 3 presents the main results. Columns (1) to (4) use the Jensen-Murphy statistic and columns (5) to (8) use the Equity-at-Stake statistic as the dependent variables. Before running the complete model, I start with just the country of origin dummies and gradually add more controls. In column (1), the adjusted R-squared is 15.1%, suggesting that the country of origin dummies alone can account for a significant portion of the observed variation in pay-performance-sensitivity of compensation contracts. The F-statistic for the test that all country of origin coefficients are equal is 13.54 (p-value=0.000), which strongly rejects the null hypothesis that country origins do not matter.

In addition to the country of origin dummies, column (2) also includes the firm-year controls, which increases the R-squared by 26% from 15.1% to 41.1%. The regression in column (3) further includes CEO time-invariant and time-variant controls, which boosts the R-squared to 53.1%. The complete model specified in equation (1) is presented in column (4), where the R-squared is 78.1% including firm and year fixed effects. In all specifications, the null hypothesis that country origins do not matter is rejected at the 1% level.

In columns (5) to (8), I repeat the analysis using the natural logarithm of the Equity-at-Stake statistic as the dependent variable. The results are very similar to those in prior columns. In particularly, the F-statistics indicate that the country of origin dummies are jointly statistically significant at the 1% level in all specifications.

From the birth country distribution of CEOs presented in Table 1, it is evident that some nations such as Lithuania only have one CEO. For countries with very few CEOs, their country of origin effects may not be estimated as precisely as those of countries with a large number of CEOs such as Canada and the United Kingdom. To examine the sensitivity of the main results, I restrict the sample to only birth countries with more than one, two, three, or four CEOs in Panel B of Table 3. Two key findings emerge. First, the coefficients on the control variables are

similar to the baseline case in Panel A as the sample size decreases from 3,551 to 3,267. Second, the F-statistics based on the more restrictive samples are also similar to the baseline case in columns (4) and (8) of Panel A. In all cases, the null hypothesis that country origins do not matter is rejected at the 1% level.

Table 4 presents the summary statistics of the country of origin fixed effects estimated from different models. In Panel A, the means and medians of the fixed effects are mostly positive, suggesting that more than half of the birth countries have higher average CEO incentives than the United States. The interquartile range from 25th percentile to 75th percentile varies from 0.513 to 0.912, which are economically meaningful compared to a standard deviation of 1.5 for the pay-performance-sensitivity measures.

To gauge the stability of the country of origin fixed effects, I calculate correlations between different sets of fixed effects in Panel B. All country of origin estimates are highly correlated with each other, where the minimum correlation is 0.793 and the maximum correlation is close to 1. The correlations are also statistically significant at the 1% level providing confidence that the estimates are robust and stable across different measures and restriction levels.

In Panel C, I assess the relative importance of the country of origin fixed effects against other determinants of CEO incentives. Following Graham, Li, and Qiu (2012) and Coles and Li (2012), the R-squared can be expressed as:

$$R^2 = \frac{cov(PPS,\widehat{PPS})}{var(PPS)} = \frac{cov\left(PPS,\widehat{\beta_1}\text{CEO Controls}_j\right)}{var(PPS)} + \frac{cov\left(PPS,\widehat{\beta_2}\text{CEOYear Controls}_{jt}\right)}{var(PPS)} + \frac{cov\left(PPS,\widehat{\beta_3}\text{FirmYear Controls}_{it}\right)}{var(PPS)} + \frac{cov(PPS,\text{Predicted Firm Fixed Effects}_i)}{var(PPS)} + \frac{cov(PPS,\text{Predicted Year Fixed Effects}_t)}{var(PPS)} + \frac{cov(PPS,\text{Predicted Country of Origin Fixed Effects}_k)}{var(PPS)}, \quad (2)$$

where PPS denotes the pay-performance-sensitivity measure used. Each of the normalized covariance corresponds to the fraction of the model sum of squares attributable to a particular factor.

Based on the estimates in column (4) of Table 3 Panel A, the country of origin dummies can account for 5% of the observed variation in CEO incentives according to equation (2), while the CEO time-invariant controls (year of birth, a female dummy, number of years educated, a MBA degree dummy, a selective school dummy, and a military experience dummy) only account for 1.4%. The analogous numbers based on the alternative measure of pay-performance-sensitivity are 4.5% and 0.9%. The small explanatory power of the CEO time-invariant controls is consistent with Graham, Li, and Qiu (2012), who document that observable CEO characteristics such as education and birth cohorts can only explain 1% of the cross-sectional variation in CEO pay levels. Thus, the economic importance of country origins is about four to five times the economic importance of previously documented CEO-specific factors.

In terms of the other factors, the numbers in column (2) of Panel C indicate that firm fixed effects, firm time-variant variables and CEO time-variant variables account for 33.2%, 30.7%, and 9.9% of observed variation in CEO incentives measured by the natural logarithm of the Jensen-Murphy statistic, respectively. Similar patterns are also observed for the alternative measure of CEO incentives in the next two columns.

B. A Cultural Origin Proxy

In this section, I examine possible determinants of the country of origin fixed effects. Since cultural origins may affect individuals' attitudes toward intrinsic and extrinsic value of work, I choose three country level variables that may be related to such attitudes.

The first measure is the natural logarithm of the average gross domestic product (GDP) per capita from 1980 to 2009 in a given country using data from the World Bank.[5] Individuals in more developed countries may be less concerned with basic survival, thus place more emphasis on higher needs such as personal achievement rather than mere wealth accumulation.

The second measure is the average Transparency International's Anti-Corruption Perception Index value from 1980 to 2009 in a given country, where higher index values indicate

[5] For robustness, I also calculated the average GDP per capita using earlier time periods and the results are similar.

less corruption. Corruption is commonly defined as the "abuse of entrusted power for private gains."[6] Corruption levels may reflect individuals' view regarding the importance of money and their willingness to acquire monetary gains through unethical or illegal means.

The third measure is the percentage of Protestants in a given country in 1980 using data from LaPorta, Lopez-de-Silanes, Shleifer, and Vishny (1999). Max Webber (1905) argued that Protestantism promoted work ethics underlining the value of hard work, frugality and diligence, thus shifting people's attitudes from work as a means to survive to work as an inherently meaningful activity in itself.[7] According to these rationales, CEOs from countries with higher GDP per capita, less corruption, and more Protestants may have attitudes that emphasize the intrinsic value of work over monetary gains, thus predicting a negative relation between the level of incentives and each of the three measures if intrinsic motivation and extrinsic incentives are substitutes and a positive relation if they are complements.

The main results are reported in Panel A of Table 5, where each cell corresponds to an OLS regression. Since the estimated fixed effects of countries with a large number of CEOs tend to be more reliable and representative than those of countries with a small number of CEOs, each observation is weighted by the number of CEOs from a given country. The dependent variables are the country of origin fixed effects estimated from the pay-performance-sensitivity regressions in Table 3. The independent variable is either the natural logarithm of GDP per capita, the anti-corruption index, or the percentage of Protestants. In the first row, the coefficients on the natural logarithm of GDP per capita are negative and statistically significant at the 5% or the 10% level across all specifications, suggesting that CEOs from more developed countries have weaker incentives. In the second row, the coefficients on the anti-corruption index are also negative and statistically significant at the 1% or the 5% level, indicating that CEOs from less corrupt

[6] This is the definition used by Transparency International, a leading anti-corruption organization.
[7] Spenkuch (2011) find some empirical support that Protestantism induces individuals to work longer hours using German data.

countries have weaker incentives. In the third row, the coefficients on the percentage of Protestants are also negative, but at lower significance levels.

Since the three country-level measures are highly positively correlated, a regression that includes all three measures will have a serious multicollinearity problem.[8] To address this issue, I combine these measures into a single cultural origin proxy using principal component analysis. This methodology generates three components with eigenvalues of 2.386, 0.484, and 0.129. The first component can explain 80% of the total variation and is the only component with an eigenvalue larger than one. Factor loadings of this component on ln(GDP per capita), the anti-corruption index, and % Protestants are 0.581, 0.617, and 0.531, respectively. Given these properties, I denote the first principal component as the cultural origin proxy in the following analyses.[9]

In the fourth row of Table 5 Panel A, I regress the country of origin fixed effects on the cultural origin proxy and obtain significant negative coefficients, consistent with the results from the previous rows. The adjusted R-squared numbers indicate that the cultural origin proxy, which is a linear combination of ln(GDP per capita), the anti-corruption index, and % Protestants, can explain 5.2% to 33.4% of the variation in the country of origin fixed effects.

The significance of the cultural origin proxy in explaining the country of origin fixed effects also suggests an alternative methodology for examining whether cultural origins matter for CEO incentives. Instead of using the country of origin fixed effects in equation (1) and test their joint significance, I use the cultural origin proxy directly in the following OLS model:

$$\begin{aligned}\text{Pay-Performance-Sensitivity}_{ijt} = {} & \beta_0(\text{Cultural Origin Proxy}_k) \\ & + \beta_1(\text{CEO Controls}_j) + \beta_2(\text{CEO-Year Controls}_{jt}) \\ & + \beta_3(\text{Firm-Year Controls}_{it}) \\ & + \text{Firm Fixed Effects}_i + \text{Year Fixed Effects}_t + \epsilon_{ijt}, \quad (3)\end{aligned}$$

[8] The correlation between ln(GDP per capita) and the anti-corruption index is 0.85 (p=0.000). The correlation between ln(GDP per capita) and % Protestants is 0.49 (p=0.000). The correlation between the anticorruption index and % Protestants is 0.66 (p=0.000).

[9] In unreported analysis, I find that the other two components are not significantly related to CEO incentives.

where i indexes firms, j indexes CEOs, k indexes countries of origin, and t indexes time. The controls are the same as in equation (1). β_0 is predicted to be significantly different from zero if cultural origins matter for CEO incentives. Moreover, β_0 is predicted to be negative based on the work attitudes channel if intrinsic motivation and extrinsic incentives are substitutes and positive if they are complements. The standard errors are adjusted for clustering at the birth country level since the key variable varies by country of birth.

Panel B of Table 5 presents the results from this model, where columns (1) to (4) use the Jensen-Murphy statistic and columns (5) to (8) use the Equity-at-Stake statistic as the dependent variables. Before testing the cultural origin proxy, I first examine each of the three underlying variables individually. Consistent with the results in Panel A, the key coefficients in columns (1) to (3) and (5) to (7) are all negative and mostly statistically significant. In terms of their economic importance, the estimates in columns (1) to (3) suggest that a one standard deviation increase in the natural logarithm of GDP per capita (sd=1.186), the anti-corruption index (sd=1.767), or the percentage of Protestants (sd=19.436), decreases the level of incentives by 9.2%, 10.4%, and 5.7%, respectively.

In column (4), the coefficient on the cultural origin proxy is -0.076 (t=-2.847), which is statistically significant at the 1% level. This estimate translates into a decrease of 9.5% in CEO incentives for a one standard deviation (1.313) increase in the proxy. The analogous effect is slightly smaller at 8.8% based on the estimate in column (8) using the Equity-at-Stake statistic.

Together, the analysis based on the country of origin fixed effects and the cultural origin proxy suggests that CEOs from different cultural origins receive systematically different incentive contracts. Moreover, CEO incentives do not vary randomly across countries of origin. Country level variables such as the GDP per capita, the anti-corruption index, and the percentage of Protestants can explain a significant portion of the fixed effects.[10] While these results are

[10] Besides these three measures, I also examine whether other country-level measures such as the country's legal origin can explain the country of origin fixed effects, although it is less clear why such measures may be related to the level of incentives. However, I do not find a significant effect from these variables.

consistent with the interpretation that CEOs from different cultural origins have different views regarding the intrinsic and extrinsic value of work, they may also be consistent with other interpretations. I examine these potential explanations in the next section.

V. Why Do Cultural Origins Matter?

The results documented thus far show that cultural origins are statistically and economically important determinants of CEO incentives. In this section, I explore several potential explanations of this empirical finding, although they are not necessarily mutually exclusive.

A. Cultural Attitudes

The first explanation is that CEOs from different countries have different cultural attitudes that affect their level of incentives. In particular, cultural attitudes can affect the level of incentives through two possible channels. First, a CEO's cultural background can influence his attitudes toward the value of work, especially regarding the relative importance of monetary compensation and intrinsic rewards such as feelings of satisfaction and accomplishment derived from the work itself. Second, a CEO's cultural attitudes toward risk can affect his overall level of risk aversion. In this subsection, I examine which of the two channels is more likely.

A.1. Work Attitudes

The work attitudes channel posits that cultural origins can influence CEOs' attitudes toward the value of work. If intrinsic motivation and extrinsic incentives are substitutes, then CEOs from cultures that emphasize the intrinsic value of work should receive fewer monetary incentives than CEOs from cultures that view work as just a way of making money. If intrinsic motivation and extrinsic incentives are complements, then these CEOs should receive more monetary incentives.

Since work attitudes of the CEOs in the sample cannot be measured directly, I use data from the U.S. General Social Survey (GSS) to test whether the documented country of origin

fixed effects are systematically related to work attitudes. GSS is one of the most frequently used survey data in the economics literature. The data are available from 1972 to 2008 and are based on around 1,500 randomly selected U.S. residents per year.

GSS is particularly useful for my analysis because it asks a question that can be used to identify the cultural origin of the respondent: "from what countries or part of the world did your ancestors come?" I create country of origin dummies based on responses to this question and estimate the following first stage model:

$$\text{GSS Survey Question}_{ikt} = \beta_1(\text{Individual Controls}_i) + \text{Survey Year Fixed Effects}_t + \text{Country of Origin Fixed Effects}_k + \epsilon_{ijt} \quad (4)$$

where i indexes respondents, k indexes countries of origin, and t indexes time. The model in equation (4) uses ordered logit estimation to account for the ordinal and ranking nature of the survey responses. Individual controls include the respondent's age, gender, years of education, income, marital status, health status, race dummies, and work status dummies.

The dependent variable, GSS Survey Question, is one of the five survey questions that I selected to gauge respondents' view regarding the importance of intrinsic and extrinsic value of work. The questions are described in Panel A of Table 6, where the responses are reordered to facilitate interpretations. The first question asks: "Which you would most prefer in a job? Work is important and gives a feeling of accomplishment." Individuals that rank this work characteristic as more important place a stronger emphasis on intrinsic rewards derived from work. The other survey questions ask: "do you prefer a job with high income", "how important do you personally consider high income is in a job", "do you think that work is just a way of earnings money", and "is there any right or wrong way of making money." Individuals that view having a high income job as very important or think a job is just a way of earning money tend to value money highly and should respond well to monetary incentives. In the extreme case, individuals that do not think there are right or wrong ways of making money should respond

extremely well to monetary incentives since they are willing to acquire money using any means possible.

In the second stage, I estimate the following model:

$$FE(PPS)_k = \alpha + \beta FE(GSS)_k + \varepsilon_k, \quad (5)$$

where j indexes countries of origin. FE(PPS) are the country of origin fixed effects from the pay-performance-sensitivity regressions in Table 3. FE(GSS) are the country of origin fixed effects from equation (4), where the dependent variables are questions from the General Social Survey.

The first stage results are reported in Panel A of Table 6 and the second stage results are reported in Panel B. In Panel A, I test the null hypothesis that respondents' work attitudes do not vary systematically across countries of origin. Based on the chi-square statistics, the null hypothesis is rejected at the 1% level, suggesting that cultural origins are important determinants of work attitudes.

In Panel B, the second stage results show that individuals from countries of origin associated with stronger CEO incentives view having an important job that gives a feeling of accomplishment to be less important, view having a high income to be more important, are more likely to think that a job is just a way of earning money, and are more likely to think there are no right and wrong ways of making money.

Using principal component analysis, I summarize five sets of country of origin fixed effects from GSS regressions into a single measure using the first principal component, which has an eigenvalue of 2.97. The work proxy has loadings of -0.28, 0.53, 0.48, 0.48, and 0.42 on FE(JOBMEANS), FE(JOBINC), FE(HIINC), FE(WRKEARN), and FE(ANOMIA3), respectively, indicating that higher values correspond to a stronger emphasis on extrinsic over intrinsic benefits of work. Consistent with previous rows, this measure is significantly positively related to country of origin fixed effects from the PPS regressions. Economically, a one standard

deviation in the work proxy increases the PPS fixed effects by 16.1% to 62% of their standard deviations.

Alternatively, I use the cultural origin proxy directly in equation (4) instead of the country of origin dummies. The results are reported in Panel C, which are consistent with those based on the fixed effects. Overall, these results are consistent with intrinsic motivation and extrinsic incentives being substitutes.

A potential concern with comparing the survey sample to the CEO sample is that the CEO may not be a typical immigrant. To partly address this issue, I redo the analysis on a sample of respondents in managerial and professional occupations.[11] Arguably, these "white-collar" workers are more comparable to company executives than an average immigrant. The results based on this sample are reported in Panels A, B, and C of Table 6, which are similar to the findings based on the full sample. In particular, a one standard deviation in the work proxy based on the restricted sample increases the PPS fixed effects by 16.1% to 62% of their standard deviations. Together, these results suggest that differences in CEO incentives across cultural origins are related to cultural attitudes regarding the intrinsic and extrinsic value of work.

A.2. Risk Attitudes

The risk attitudes channel posits that CEOs from more risk tolerant cultures are less risk averse, thus should receive stronger monetary incentives based on the negative tradeoff between risk and incentives in the classic agency models.

To test this channel directly, I use the U.S. General Social Survey similar to the previous section. Although GSS does not ask any probability questions that can be used to assess risk aversion directly, it does ask risk-related questions. For instance, GSS asks respondents to rate the importance of job security and whether they participate in the stock market. Prior research suggests that risk averse individuals are more likely to view job security as an important job

[11] This sample excludes craftsmen, operatives, laborers, farmers, and service workers.

attribute (Bellante and Link (1981), Guiso and Paiella (2008), and Paola (2012)) and are less likely to participate in the stock market (Campbell (2006)).

In the first stage, I regress survey responses to each of the three risk-related questions on a set of individual controls, survey year fixed effects, and country of origin dummies following equation (4). The second stage results are reported in Panel A, where the country of origin fixed effects from the pay-performance-sensitivity regressions in Table 3 are regressed on the country of origin fixed effects from the first stage following equation (5). The results suggest that differences in CEO incentives across cultural origins are mostly not significantly related to risk attitudes based on the surveys. I also create a measure based on principal component analysis, with loadings of 0.54, 0.61, and -0.58 on FE(SECJOB), FE(JOBSEC), and FE(INVESTGN), respectively. This measure is also not significantly related to CEO incentives. For robustness, I restrict the sample to respondents in managerial and professional occupations, which yields insignificant coefficients in all specifications except one.

Alternatively, I test this channel using corporate policies based on the idea that less risk averse CEOs implement riskier corporate policies. I use five corporate policy measures including leverage, cash, capital expenditure, R&D expenditure, and stock volatility. More risk tolerant CEOs should use more leverage, less cash, undertake more capital and R&D investment, and have higher stock volatility. In the first stage, I run the following OLS model:

$$\begin{aligned}\text{Corporate Policy}_{ijt} = {} & \beta_1(\text{CEO Controls}_j) + \beta_2(\text{CEO-Year Controls}_{jt}) \\ & + \beta_3(\text{Firm-Year Controls}_{it}) \\ & + \text{Firm Fixed Effects}_i + \text{Year Fixed Effects}_t \\ & + \text{Country of Origin Fixed Effects}_k + \epsilon_{ijt}, \end{aligned} \quad (6)$$

where i indexes firms, j indexes CEOs, k indexes countries of origin, and t indexes time. The same set of controls from Table 3 is used. In the second stage, I relate two sets of the country of origin fixed effects as follows:

$$FE(PPS)_k = \alpha + \beta FE(Corporate\ Policy)_k + \varepsilon_j \quad (7)$$

where k indexes countries of origin. FE(PPS) are the country of origin fixed effects from the pay-performance-sensitivity regressions in Table 3. FE(Corporate Policy) are the country of origin fixed effects from equation (6), where the dependent variables are corporate policy measures.

The second stage results are reported in Panel B. Most of the coefficients are not statistically significant at conventional levels. Focusing on the significant coefficients, they suggest that CEOs with stronger incentives are associated with higher leverage, less capital expenditure, less R&D expenditure, and lower stock volatility.[12] With the exception of leverage, the other corporate policies are not consistent with the risk attitudes channel. In Panel C, I use the cultural origin proxy directly in corporate policy regressions. The coefficients on the cultural origin proxy are not statistically different from zero. Overall, it is difficult to interpret the results in this section as supportive of the risk attitudes channel.

B. Skill

The skill explanation posits that the country of origin fixed effects from the pay-performance-sensitivity regressions are systematically related to differences in marginal productivity of CEO effort across countries of origin. In particular, managers with higher marginal productivity of effort should be awarded with stronger incentives. I examine the skill hypothesis in three ways.

First, all the main findings are obtained while controlling for observed CEO talent using years of education, the completion of a MBA degree, and whether the CEO has received one of his degrees from a highly selective college. At a minimum, the significance of the country of origin fixed effects suggests that the documented relations are not driven by these measures of observable talent. However, the possibility that unobserved talent drives results is still present.

Second, some foreign CEOs are educated in their home countries. If the quality of education affects the CEO's productivity of effort, then systematic differences in education

[12] Unlike Table 6, I do not summarize the fixed effects into a single measure using principal component analysis because the components do not load on the fixed effects in a consistent manner.

quality across countries may be responsible for the results. Since it is difficult to control for the quality of education across countries, I restrict the foreign CEO sample to CEOs who have received at least one degree in the U.S. to obtain a more homogenous sample of CEOs in terms of educational background and quality. Around 60% of the foreign CEOs have received at least one of their degrees in the United States. If the quality of education is responsible for the documented relations, then the main findings should become weaker or disappear in this sample. The results are presented in Panel A of Table 8. In columns (1) and (2), I use the pay-performance-sensitivity model with country of origin fixed effects, where the null hypothesis that cultural origins do not matter is rejected at the 1% level according to the F-statistics. Moreover, the correlation between the country of origin fixed effects from column (1) and those from the baseline case in Table 3 is 0.89 (p=0.000).

In columns (3) and (4), I test the relation between the cultural origin proxy and measures of CEO incentives directly. The coefficients on the cultural origin proxy are negative and statistically significant at the 1% level with similar magnitudes as the baseline case in Table 5. Since cultural origins still matter in this sample, the results cast doubt on the possibility that differences in educational quality are driving the results.

Third, theoretical models predict that more talented CEOs should also receive higher pay. Thus, another way to test whether the results are driven by skill is to examine pay differences across cultural origins. In the first stage, I estimate the model from equation (1) using the natural logarithm of total compensation as the dependent variable. The second stage results are presented in Panel B of Table 8, where the country of origin fixed effects from the pay-performance-sensitivity regressions are regressed on the country of origin fixed effects from the first stage. If skill is driving results, then a positive relation between the two sets of fixed effects is expected. However, the key coefficients are negative and statistically insignificant.

Furthermore, I examine measures of firm performance to see if there is any evidence that more talented CEOs are performing better. Panel B presents the second stage results, where the

country of origin estimates from the pay-performance-sensitivity regression are regressed on the country of origin estimates from ROA or Tobin's Q regressions. The coefficients are all negative and some are statistically significant, which are not consistent with the skill explanation. I also create a skill proxy based on three sets of country of origin estimates from the total compensation, ROA, and Tobin's Q regressions. The skill proxy is negatively correlated with the level of CEO incentives. Similar patterns are also observed in Panel C, where the cultural origin proxy is used. Overall, I do not find evidence that systematic differences in skill across cultural origins are responsible for the documented relations in Section IV.

C. Outside Wealth

The outside wealth explanation posits that CEOs from different countries of origin have systematically different levels of outside wealth that affects the provision of incentives in ways that are consistent with the documented relations. However, without information on the CEO's outside wealth, it is difficult to test this hypothesis directly.

A primary way for outside wealth to affect the level of incentives is through the risk aversion parameter since high outside wealth implies low absolute risk aversion, which should lead to stronger incentives. Becker (2006) provides empirical evidence consistent with this prediction using Swedish data, which contain information on CEO's total wealth. The risk aversion channel is not supported based on the evidence in subsection A.2.

Alternatively, outside wealth can also matter for incentive contracts through the marginal productivity of effort parameter. If talented CEOs accumulate more wealth through higher pay received early in their career, then outside wealth can be viewed as a proxy for skill. The skill hypothesis is already tested in the last subsection and I do not find evidence that skill is responsible for the documented relations.

D. Outside Employment Opportunities

This explanation posits that differences in CEO incentives across cultural origins are driven by labor market conditions in the CEO's birth country. The idea is that if the CEO's most

relevant outside employment opportunities are in his birth country, then the CEO may use compensation contracts offered in that country as reference when negotiating with the board of directors, thus influencing compensation contracts observed in the sample. To the extent that compensation contracts in the CEO's birth country are driven by non-cultural factors such as institutional and economic conditions in that country, this rationale is different from the cultural attitudes explanation.

I assess the relevance of this explanation by examining foreign-born CEOs that came to the U.S. before the age of thirty (178 CEOs), before 1980 (176 CEOs), or have been in the U.S. for at least fifteen years (222 CEOs).[13] Since these CEOs have been in the U.S. for an extended period of time, it is unlikely that their most relevant outside employment opportunities are in their birth countries. If cultural origins do not matter in these subsamples, then the documented effects in Section IV may be driven by labor market conditions in the CEO's birth country.

The analysis is carried out in Table 9, where foreign-born CEOs that do not meet the stated criterion are excluded from the sample and U.S.-born CEOs are included as controls. In Panel A, the null hypothesis that cultural origins do not matter for CEO incentives is rejected at the 1% level according to the F-statistics. In Panel B, the coefficients on the cultural origin proxy is negative and statistically significant at the 5% level in all subsamples. The magnitudes of the effects are also similar to the baseline case in Table 5. Since the main effects are still present in these subsamples, it is unlikely that labor market conditions in the CEO's birth country can account for most of the effects documented in Section IV.

Viewing all results together, I find some evidence that systematic differences in CEO incentives across cultural origins are related to cultural attitudes regarding the intrinsic and extrinsic value of work. I do not find much evidence that these differences can be explained by

[13] I identified these CEOs based on information provided in the biographies in two ways. First, if immigration date is available, then I use that as the CEO's arrival date to the U.S. Second, if immigration date is not available, then I use the CEO's education and career history to infer the time of entry.

risk attitudes, skill, outside wealth, or labor market conditions. Although it is still possible for these channels to explain some of the results, they are unlikely to be the main drivers.

VI. Generalization of Results

The main findings are based on 706 CEOs from 289 firms, where the sample size is limited by the number of foreign-born CEOs working in U.S. companies. Similar to foreign-born CEOs, U.S. born CEOs can also have different cultural backgrounds. This is especially true in the U.S., where most people are immigrants whose ancestors came from different parts of the world. Based on this notion, I can extend the main analysis to a large sample of U.S. born CEOs.

Since the CEOs' cultural backgrounds are not publicly disclosed, I use their surnames to identify cultural origins following the prior literature.[14] This methodology is commonly used in the public health and population genetics literature. Recently, several studies in the finance literature (Kerr, 2008; Gompers, Mukharlyamov and Xuan, 2012; Bengtsson and Hsu, 2013; Hegde and Tumlinson, 2013) also use names to identify the ethnic origin of inventors and venture capitalists. I use two methodologies to match CEO names to their cultural origins. First, I use more than 26 million U.S. Census records from 1850 to 1930, where respondents' names are disclosed since these records are no longer subject to the 72-year confidentiality rule. For the subsample of foreign-born respondents, I link each surname to its most frequently associated country of birth or father's country of birth. To ensure reliability, I only keep surnames for which the associated country of birth appears in more than 75% of the cases. For the 3000 most frequently used surnames, I hand-check their country of origin using immigration port entry records from sources such as ancestry.com. The procedure generates a list of over 900,000 family names and their associated country of origin. Second, Origins Info Ltd., a well-known commercial vendor of name classification services, processed the list of CEO names for me

[14] Prior studies such as Choi, Holowaty, and Dale (1993) and Lauderdale and Kestenbaum (2000) use similar approaches to identify ethnic/ancestral background.

using their proprietary database constructed based on sources such as the American Dictionary of Family names and international telephone directories. To ensure reliable matches between CEO names and cultural origins, I only include CEOs whose names are matched to the same country of origin using both methodologies. The final matched set includes 3,434 Execucomp CEOs from 2,280 publicly traded firms that are headquartered and incorporated in the U.S.

Table 10 presents the pay-performance-sensitivity regressions for this larger sample. In columns (1) and (2), I run a model similar to the specification in equation (1). Instead of identifying country of origin based on the CEOs' country of birth, country of origin is identified based on the CEOs' surnames. The F-statistics indicate that the country of origin dummies are jointly significant at the 1% level. In columns (3) and (4), I use the cultural origin proxy directly and run a model similar to equation (3). The coefficient on the cultural origin proxy is -0.071 (t=-2.772) in column (3), which translates to a 4.7% decrease in CEO incentive strength for a one standard deviation increase in the cultural origin proxy (0.68).[15] This effect is economically significant, although smaller than the original effect of 9.5% for the main sample, possibly due to the effect of culture attenuating over time. Similarly, the key coefficient in column (4) is also negative and statistically significant. Overall, Table 9 shows that even for a large sample of mostly U.S.-born CEOs, cultural origins still matter for CEO incentives, consistent with the main results documented earlier.

VII. Conclusion

Recent studies by Graham, Li, and Qiu (2012) and Coles and Li (2012) highlight the importance of examining CEO-specific characteristics in an effort to understand the determinants of CEO compensation contracts. Using a sample of 706 CEOs in 289 U.S. companies, I show

[15] In fact, the correlation between the cultural origin proxy based on countries of birth and the cultural origin proxy based on cultural origins identified by surnames for the foreign-born CEOs is 0.84 (p-value=0.000). The high correlation provides additional evidence that the classification of cultural origins based on surnames is fairly accurate. To also ensure that the results in Table 10 are not driven solely by foreign-born CEOs, I exclude them in the robustness analysis and find very similar results.

that the CEOs' cultural origins, identified by their countries of birth, are economically important determinants of CEO incentives. Cultural origins can explain 5% of the variation in CEO incentives, while previous identified CEO-specific factors such as birth year, gender, education, MBA degree, selective college, and military experience together explain 1%.

Further analysis shows that CEOs from countries with higher GDP per capita, less corruption, and more Protestants have weaker incentives, suggesting that CEO incentives do not vary randomly across cultural origins. To understand why cultural origin matters, I examine several potential explanations. While I do not find much evidence that risk attitudes, skill, outside wealth or labor market conditions are the main drivers of the documented relations, I find evidence that systematic differences in CEO incentives across cultural origins are related to attitudes regarding the intrinsic and extrinsic value of work. The last finding echoes several theoretical studies and experimental evidence highlighting the importance of intrinsic and extrinsic incentives in motivating behaviors.

This study connects the compensation literature with the growing economics literature documenting the importance of cultural attitudes in determining individual behaviors and economic outcomes. Further research in this area can enrich our understanding of how individuals behave in organizations and ultimately contribute to developing a viable theory of the firm.

References

Adams, Renée B., Heitor Almeida, and Daniel Ferreira, 2005, Powerful CEOs and their impact on corporate performance, *Review of Financial Studies 18*, 1403-1432.

Ahern, Kenneth R., Daniele Daminelli, and Cesare Fracassi, 2012, Lost in translation? The effect of cultural values on mergers around the world, *Journal of Financial Economics* forthcoming.

Baker, George P., Michael C. Jensen, and Kevin J. Murphy, 1988, Compensation and incentives: practice vs. theory, *Journal of Finance* 43, 593-616.

Becker, Bo, 2006, Wealth and executive compensation, *Journal of Finance* 61, 379-397.

Bellante, Don, and Albert N. Link, 1981, Are public sector workers more risk averse than private sector workers?, *Industrial and Labor Relations* Review 34, 408-412.

Bénabou, Roland, and Jean Tirole, 2003, Intrinsic and extrinsic motivation, *Review of Economic Studies* 70, 489-520.

Bengtsson, Ola, and David H. Hsu, 2013, Ethnic matching in the U.S. venture capital market, *Working Paper*.

Bertrand, Marianne, and Antoinette Schoar, 2003, Managing with style: The effect of managers on firm policies, *Quarterly Journal of Economics 118*, 1169-1208.

Besley, Tim and Ghatak, Maitreesh, 2005, Competition and incentives with motivated agents, *American Economic Review* 95 (3), 616-636.

Campbell, John Y., 2006, Household finance, Journal of Finance 61, 1553-1604.

Carlin, Bruce I., and Simon Gervais, 2009, Work ethic, employment contracts, and firm value, *Journal of Finance* 64, 785-821.

Choi, Bernard C. K., J. G. Hanley, Eric J. Holowaty, and Darlene Dale, 1993, Use of surnames to identify individuals of Chinese ancestry, *American Journal of Epidemiology* 138, 723-734.

Coles, Jeffrey L., and Zhichuan Frank Li, 2012, Managerial attributes, incentives, and performance, *Working Paper*.

Core, John, and Wayne Guay, 2002, Estimating the value of employee stock option portfolios and their sensitivities to price and volatility, *Journal of Accounting Research* 40, 613-630.

Core, John, and Wayne Guay, and David Larcker, 2003, Executive equity compensation and incentives: a survey. *Federal Reserve Bank of New York Economic Policy Review* 9, 27-50.

DeBacker, Heim, and Tran, 2012, Importing corruption culture from overseas: evidence from corporate tax evasion in the United States, *Journal of Financial Economics* forthcoming.

Deci, Edward L., 1975, *Intrinsic Motivation*, New York: Plenum Press.

Deci, Edward L., Richard Koestner, and Richard M. Ryan, 1999, A meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation, *Psychological Bulletin* 125, 627-668.

Denis, David J., and Jin Xu, 2013, Insider trading restrictions and top executive compensation, *Journal of Accounting and Economics* 2013, 91-112.

Edmans, Alex, and Xavier Gabaix, 2009, Is CEO pay really inefficient? A survey of new optimal contracting theories, *European Financial Management* 15, 486-496.

Eisenberger, Robert, David Pierce, and Judy Cameron, 1999, Effects of reward on intrinsic motivation-negative, neutral, and positive: comment on Deci, Koestner, and Ryan (1999), *Psychological Bulletin* 125, 677-691.

Fernández, Raquel, 2011, Does culture matter?, in J. Benhabib, A. Bisin, and M. O. Jackson, eds., *Handbook of Social Economics*, Vol. 1A, North-Holland.

Fernández, Raquel, and Alessandra Fogli, 2009, Culture: an empirical investigation of beliefs, work, and fertility, *American Economic Journal: Macroeconomics* 1, 146-177.

Fisman, Raymond, and Edward Miguel, 2007, Corruption, norms, and legal enforcement: evidence from diplomatic parking tickets, *Journal of Political Economy* 115, 1020-1048.

Frey, Bruno S., and Reto Jegen, 2002, Motivation crowding theory, *Journal of Economic Surveys* 15, 589-611.

Frydman, Carola, and Dirk Jenter, 2010, CEO compensation, *Annual Review of Financial Economics* 2, 75-102.

Giuliano, Paola, 2007, On the determinants of living arrangements in western Europe: does cultural origin matter?, *Journal of the European Economic Association* 5, 927-952.

Gompers, Paul, Vladimir Mukharlyamov, and Yuhai Xuan, 2012, The cost of friendship, *Working Paper*.

Graham, John R., Campbell R. Harvey, and Manju Puri, 2013, Managerial Attitudes and Corporate Actions, *Journal of Financial Economics* 109, 103-121.

Graham, John R., Si Li, and Jiaping Qiu, 2012, Managerial Attributes and Executive Compensation, Review of Financial Studies 25, 144-186.

Guiso, Luigi, and Monica Paiella, 2008, Risk aversion, wealth, and background risk, *Journal of the European Economic Association*, 6, 1109-1150.

Guiso, Luigi, Paola Sapienza, and Luigi Zingales, 2004, The role of social capital in financial development, *American Economic Review* 94, 526-556.

Guiso, Luigi, Paola Sapienza, and Luigi Zingales, 2006, Does culture affect economic outcomes?, *Journal of Economic Perspectives* 20, 23-48.

Hegde, Deepak, and Justin Tumlinson, 2013, Can birds of a feather fly together? The payoffs of ethnic proximity in US venture capital. *Working Paper*.

Hilary, Gilles, and Kai Wai Hui, 2008, Does religion matter in corporate decision making in America?, *Journal of Financial Economics* 93, 455-473.

Holmstrom, Bengt, 1979, Moral hazard and observability, *Bell Journal of Economics* 10, 74-91.

Holmstrom. Bengt, and Paul Milgrom, 1987, Aggregation and linearity in the provision of intertemporal incentives, *Econometrica* 55, 303-328.

Ichino, Andrea, and Giovanni Maggi, 2000, Work environment and individual background: explaining regional shirking differentials in a large Italian firm, *Quarterly Journal of Economics* 115, 1057-1090.

Jensen, Michael C., and Kevin Murphy, 1990, Performance pay and top-management incentives, *Journal of Political Economy* 98, 225-264.

Jenter, Dirk, and Carola Frydman, 2010, CEO compensation, *Annual Review of Financial Economics* 2, 75-102.

Kerr, William R., 2008, The supply side of innovation: H-1B visa reforms and U.S. ethnic invention, *Journal of Labor Economics 28*, 473-508.

LaPorta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer, and Robert Vishny, 1999, The quality of government, *Journal of Law, Economics and Organization* 15, 222-279.

Lauderdale, Diane S., and Bert Kestenbaum, 2000, Asian American ethnic identification by surname, *Population Research and Policy Review* 19, 283-300.

Malmendier, Ulrike, Geoffrey Tate, and Jon Yan, 2011, Overconfidence and Early-Life Experiences: The Effect of Mangerial Traits on Corporate Financial Policies, *Journal of Finance 66*, 1687-1733.

Milbourn, Todd, 2003, CEO Reputation and Stock-Based Compensation, *Journal of Financial Economics* 68, 233-262.

Murdock, Kevin, 2002, Intrinsic motivation and optimal incentive contracts, *Rand Journal of Economics* 33, 650-671.

Murphy, Kevin J., 1999, Executive compensation, In *Handbook of Labor Economics* Vol.3B, ed. Oashenfelter, D Card, 2485-2563. Amsterdam: Elsevier/North-Holland.

Nunn, Nathan, and Leonard Wantchekon, 2011, The slave trade and the origins of mistrust in Africa, *American Economic Review* 101, 3221-3252.

Paola, Maria De, 2012, The determinants of risk aversion: the role of intergenerational transmission, *German Economic Review* 14, 214-234.

Spenkuch, Jörg L., 2011, The Protestant ethics and work: micro evidence from contemporary Germany, University of Chicago Working Paper.

Weber, Max, 1905, The Protestant ethic and the spirit of capitalism. Allen & Unwin, London.

Table 1: Birth Country Distribution

The table presents the birth country distribution of 706 CEOs used in the main sample.

Birth Country	# of CEOs	Birth Country	# of CEOs
USA	426	JAPAN	5
AUSTRALIA	9	LEBANON	3
AUSTRIA	4	LITHUANIA	1
BAHAMAS	1	MALAYSIA	1
BELGIUM	2	MEXICO	2
BRAZIL	1	MOROCCO	3
BULGARIA	1	NETHERLANDS	8
CANADA	43	NEW ZEALAND	1
CHILE	1	NORWAY	4
CHINA	18	PAKISTAN	3
CROATIA	2	POLAND	3
CUBA	6	RUSSIA	1
DENMARK	2	SOUTH AFRICA	8
DUTCH EAST INDIES	1	SOUTH KOREA	1
EGYPT	5	SPAIN	2
FRANCE	16	SRI LANKA	1
GERMANY	19	SWEDEN	5
GREECE	4	SWITZERLAND	3
HUNGARY	3	TRINIDAD	1
INDIA	21	TURKEY	2
IRAN	7	UKRAINE	1
IRELAND	6	UNITED KINGDOM	35
ISRAEL	5	YUGOSLAVIA	1
ITALY	6	ZAMBIA	2

Table 2: Summary Statistics

This table presents summary statistics based on 3,624 CEO-year observations from 1992 to 2011. The main sample includes 706 CEOs from 289 firms incorporated and headquartered in the U.S. Ln(Jensen-Murphy) is the natural log of the Jensen-Murphy statistic, which is the dollar change in executive wealth for a $1,000 change in firm value. Ln(Equity-at-Stake) is the natural log of the Equity-at-Stake statistic, which is the dollar change in executive wealth for a 1% change in firm value. Birth Year is the CEO's year of birth. Female is a dummy that equals one (zero otherwise) for female CEOs. Years of Education is the total number of years the CEO has been in schools. MBA Degree is a dummy that equals one (zero otherwise) if the CEO has received a MBA degree. Selective School is a dummy that equals one (zero otherwise) if the CEO has received a degree from Brown University, Columbia University, Cornell University, Dartmouth College, Harvard University, Princeton University, Yale University, MIT, Stanford, Duke, University of Chicago, University of Pennsylvania, or California Institute of Technology. Military Experience is a dummy that equals one (zero otherwise) if the CEO has served in the armed forces in the U.S. or in another country. Ln(CEO Age) is the natural logarithm of the CEO's age. Ln(CEO Tenure) is the natural logarithm of the number of years the CEO has been in the current position. CEO Director is a dummy that equals one (zero otherwise) if the CEO is a director. CEO Chairman is a dummy that equals one (zero otherwise) if the CEO is the chairman of the board. Insider CEO is a dummy that equals one (zero otherwise) is the CEO is an internal candidate. Ln(Assets) is the natural log of total assets. Ln(1+Age) is the natural log of one plus the number of years the firm has been in Compustat. Market-to-book is the market value of assets over book value of assets. Leverage is the ratio of debt over book value of assets. Stock Volatility is the annualized standard deviation of daily returns. ROA is EBITDA over total assets. Stock Return is the raw stock return over the prior year.

	N	Mean	Stdev	Min	Max
ln(Jensen-Murphy)	3624	2.025	1.530	-3.413	5.301
ln(Equity-at-Stake)	3624	12.482	1.590	5.446	15.150
Birth Year	3624	1946.503	9.415	1913	1978
Female	3624	0.016	0.126	0.000	1.000
Years of Education	3624	17.424	1.854	12.000	21.000
MBA Degree	3624	0.289	0.453	0.000	1.000
Selective School	3624	0.284	0.451	0.000	1.000
Military Experience	3624	0.065	0.246	0.000	1.000
ln(CEO Age)	3624	4.002	0.135	3.401	4.419
ln(CEO Tenure)	3624	1.662	0.885	0.000	3.912
CEO Director	3624	0.985	0.120	0.000	1.000
CEO Chairman	3624	0.601	0.490	0.000	1.000
Insider CEO	3624	0.654	0.476	0.000	1.000
ln(Assets)	3624	8.290	1.820	3.756	12.295
ln(1+Age)	3624	3.186	0.737	0.693	4.127
Market-to-book	3624	1.817	1.517	0.152	8.773
Leverage	3624	0.214	0.163	0.000	0.860
Stock Volatility	3624	0.423	0.233	0.130	1.322
ROA	3624	0.139	0.098	-0.262	0.427
Stock Returns	3624	0.194	0.545	-0.765	2.807

Table 3: CEO Incentives and the Country of Origin Fixed Effects

This table presents results from pay-performance-sensitivity regressions. The main sample includes 3,624 CEO-year observations from 1992 to 2011. Panel A includes all CEOs. Panel B includes CEOs whose country of birth has more than one, two, three, or four CEOs. In both panels, the dependent variable in columns (1) and (4) is the natural logarithm of the Jensen-Murphy statistic, which is the dollar change in executive wealth for a $1,000 change in firm value. The dependent variable in columns (5) and (8) is the natural logarithm of the Equity-at-Stake statistic, which is the dollar change in executive wealth for a 1% change in firm value. All control variables are defined in the Data Appendix. Birth country dummies are included in all regressions. Firm and year fixed effects are included as specified. T-statistics (in parentheses) are computed using heteroskedasticity-consistent standard errors that are corrected for clustering at the birth country level. *, **, and *** denotes significance at the 10%, 5%, and 1% levels, respectively. The last row reports the results of an F-test for the equality of the country of origin fixed effects.

Panel A: All CEOs

	ln(Jensen-Murphy)				ln(Equity-at-Stake)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
CEO Controls								
Birth Year	-	-	0.003	-0.066	-	-	0.032***	-0.042
			(0.650)	(-1.079)			(7.061)	(-1.132)
Female	-	-	-0.146	0.009	-	-	0.061	-0.031
			(-1.128)	(0.046)			(0.683)	(-0.193)
Years of Education	-	-	-0.055***	-0.009	-	-	-0.018	-0.001
			(-2.713)	(-0.411)			(-0.921)	(-0.064)
MBA Degree	-	-	-0.047	-0.022	-	-	-0.120*	-0.053
			(-0.730)	(-0.486)			(-1.722)	(-1.079)
Selective School	-	-	-0.169**	0.009	-	-	-0.123*	-0.021
			(-2.071)	(0.140)			(-1.858)	(-0.309)
Military Experience	-	-	0.119	0.095	-	-	0.139**	0.056
			(1.539)	(0.923)			(2.388)	(0.764)
ln(CEO Age)$_t$	-	-	0.032	-2.951	-	-	1.287***	-2.027
			(0.091)	(-0.928)			(3.726)	(-1.034)
ln(CEO Tenure)$_t$	-	-	0.518***	0.412***	-	-	0.523***	0.444***
			(7.975)	(13.640)			(9.397)	(17.154)
CEO Director$_t$	-	-	0.347**	0.375*	-	-	0.588***	0.398*
			(2.264)	(1.980)			(4.117)	(1.986)
CEO Chairman$_t$	-	-	0.286***	0.233***	-	-	0.302***	0.233***
			(6.148)	(3.556)			(5.388)	(4.428)
Insider CEO$_t$	-	-	-0.210***	0.079	-	-	-0.143*	0.098
			(-2.916)	(1.453)			(-1.910)	(1.586)
Firm Controls								
ln(Assets)$_{t-1}$	-	-0.395***	-0.387***	-0.306***	-	0.459***	0.454***	0.375***
		(-11.616)	(-16.500)	(-9.609)		(11.301)	(13.906)	(9.394)
ln(1+Age)$_t$	-	-0.237***	-0.231***	-0.584***	-	-0.144*	-0.187**	-0.656***
		(-3.235)	(-3.477)	(-7.401)		(-1.907)	(-2.518)	(-5.229)
Market-to-book$_{t-1}$	-	-0.085***	-0.062***	-0.045***	-	0.284***	0.300***	0.142***
		(-4.670)	(-4.193)	(-4.369)		(14.181)	(22.145)	(7.702)
Leverage$_{t-1}$	-	0.165	0.332**	0.661***	-	-0.873***	-0.609***	-0.077
		(0.920)	(2.099)	(3.138)		(-4.315)	(-3.108)	(-0.329)
Stock Volatility$_{t-1}$	-	0.526***	0.576***	0.178	-	0.201	0.147	-0.192
		(5.428)	(9.150)	(1.517)		(1.471)	(1.511)	(-1.651)
ROA$_{t-1}$	-	-0.753**	-0.850***	0.428*	-	1.173***	1.291***	1.554***
		(-2.279)	(-4.083)	(1.686)		(3.096)	(3.012)	(5.790)
Stock Returns$_{t-1}$	-	0.120***	0.102***	0.049***	-	0.074	0.071*	0.132***
		(3.016)	(5.000)	(2.711)		(1.518)	(1.986)	(4.255)
Birth Country Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	No	No	No	Yes	No	No	No	Yes
Year FE	No	No	No	Yes	No	No	No	Yes
N. of Obs.	3,624	3,624	3,624	3,624	3,624	3,624	3,624	3,624
N. of Firms	289	289	289	289	289	289	289	289
N. of CEOs	706	706	706	706	706	706	706	706
R^2_{adj}	15.1%	41.1%	53.1%	78.1%	11.4%	36.3%	47.4%	73.1%
F-test	13.54	8.750	7.878	5.867	9.939	11.49	10.21	4.704
Prob > F	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Panel B: Restricting the Number of CEOs

CEOs per Birth Country	ln(Jensen-Murphy)				ln(Equity-at-Stake)			
	>1	>2	>3	>4	>1	>2	>3	>4
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
CEO Controls								
Birth Year	-0.066	-0.055	-0.048	-0.119***	-0.041	-0.035	-0.020	-0.058*
	(-1.076)	(-0.859)	(-0.709)	(-4.592)	(-1.100)	(-0.895)	(-0.532)	(-1.795)
Female	0.007	0.039	0.035	0.029	-0.038	-0.037	-0.045	-0.054
	(0.036)	(0.224)	(0.205)	(0.165)	(-0.234)	(-0.228)	(-0.283)	(-0.335)
Years of Education	-0.009	-0.017	-0.018	-0.015	-0.002	-0.011	-0.015	-0.013
	(-0.403)	(-0.800)	(-0.851)	(-0.710)	(-0.072)	(-0.553)	(-0.737)	(-0.676)
MBA Degree	-0.022	-0.025	-0.023	-0.011	-0.053	-0.051	-0.040	-0.036
	(-0.481)	(-0.534)	(-0.476)	(-0.279)	(-1.071)	(-1.022)	(-0.803)	(-0.768)
Selective School	0.008	-0.013	-0.016	-0.017	-0.021	-0.035	-0.031	-0.028
	(0.129)	(-0.193)	(-0.230)	(-0.236)	(-0.298)	(-0.478)	(-0.413)	(-0.371)
Military Experience	0.095	0.106	0.118	0.083	0.058	0.066	0.073	0.052
	(0.919)	(1.000)	(1.064)	(0.960)	(0.782)	(0.879)	(0.981)	(0.830)
ln(CEO Age)$_t$	-2.970	-2.460	-2.094	-5.790***	-1.964	-1.698	-0.942	-2.918
	(-0.928)	(-0.737)	(-0.594)	(-4.279)	(-0.995)	(-0.828)	(-0.475)	(-1.711)
ln(CEO Tenure)$_t$	0.413***	0.418***	0.423***	0.423***	0.446***	0.452***	0.461***	0.462***
	(13.155)	(12.486)	(11.757)	(11.359)	(16.862)	(15.906)	(15.180)	(14.768)
CEO Director$_t$	0.372*	0.361*	0.372*	0.354	0.393*	0.382*	0.377	0.368
	(1.948)	(1.773)	(1.805)	(1.641)	(1.928)	(1.754)	(1.639)	(1.558)
CEO Chairman $_t$	0.237***	0.270***	0.273***	0.271***	0.236***	0.273***	0.284***	0.277***
	(3.691)	(5.190)	(5.179)	(5.510)	(4.524)	(6.829)	(7.512)	(7.229)
Insider CEO$_t$	0.079	0.080	0.080	0.068	0.101	0.111	0.102	0.093
	(1.454)	(1.448)	(1.460)	(1.361)	(1.610)	(1.700)	(1.631)	(1.577)
Firm Controls								
ln(Assets)$_{t-1}$	-0.308***	-0.329***	-0.326***	-0.319***	0.382***	0.350***	0.356***	0.359***
	(-9.422)	(-9.272)	(-9.342)	(-10.469)	(10.072)	(7.590)	(8.244)	(8.787)
ln(1+Age)$_t$	-0.588***	-0.598***	-0.630***	-0.624***	-0.647***	-0.647***	-0.675***	-0.661***
	(-7.325)	(-7.447)	(-7.579)	(-7.098)	(-5.120)	(-4.677)	(-4.467)	(-4.128)
Market-to-book$_{t-1}$	-0.042***	-0.046***	-0.047***	-0.039***	0.149***	0.143***	0.143***	0.148***
	(-3.896)	(-4.350)	(-4.761)	(-3.626)	(9.065)	(8.103)	(7.444)	(8.154)
Leverage$_{t-1}$	0.668***	0.632***	0.679***	0.688***	-0.064	-0.099	-0.031	-0.032
	(3.181)	(2.866)	(3.253)	(3.310)	(-0.275)	(-0.420)	(-0.149)	(-0.148)
Stock Volatility$_{t-1}$	0.164	0.125	0.096	0.049	-0.150	-0.195*	-0.223**	-0.249***
	(1.402)	(1.193)	(1.016)	(0.589)	(-1.185)	(-1.865)	(-2.527)	(-3.105)
ROA$_{t-1}$	0.388	0.470*	0.530*	0.485	1.463***	1.494***	1.485***	1.447***
	(1.490)	(1.806)	(1.965)	(1.734)	(6.001)	(5.864)	(5.739)	(5.489)
Stock Returns$_{t-1}$	0.048**	0.045**	0.041*	0.035	0.124***	0.116***	0.114***	0.107**
	(2.605)	(2.290)	(1.956)	(1.461)	(3.695)	(3.093)	(2.913)	(2.460)
Birth Country Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N. of Obs.	3,551	3,430	3,317	3,267	3,551	3,430	3,317	3,267
N. of Firms	286	282	275	274	286	282	275	274
N. of CEOs	689	673	656	647	689	673	656	647
R^2_{adj}	77.8%	78.2%	77.8%	77.9%	73.0%	73.4%	73.2%	73.2%
F-test	6.093	6.882	7.913	7.335	4.629	5.191	5.440	4.688
Prob > F	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Table 4: Summary Statistics of the Country of Origin Fixed Effects

This table presents summary statistics of the country of origin fixed effects. Panel A reports the distribution of the country of origin fixed effects from Table 3, where the specific regression is denoted by panel # (column #). Panel B reports correlations between different sets of country of origin fixed effects from Table 3. All correlations are significant at the 1% level. Panel C examines the relative importance of different components in the pay-performance-sensitivity model, using estimation results from columns 4 and 8 of Table 3 Panel A. Covariance between ln(Jensen-Murphy) and each of the components is reported in column (1) and covariance between ln(Equity-at-Stake) and each of the components is reported in column (3). The normalized covariances (in percentage) are reported in columns (2) and (4).

Panel A: Distribution

	JM_{All}	$JM_{>1}$	$JM_{>2}$	$JM_{>3}$	$JM_{>4}$	ES_{All}	$ES_{>1}$	$ES_{>2}$	$ES_{>3}$	$ES_{>4}$
Model	A (4)	B (1)	B (2)	B (3)	B (4)	A (8)	B (5)	B (6)	B (7)	B (8)
N	47	33	26	20	17	47	33	26	20	17
Mean	0.087	0.233	0.290	0.388	0.142	0.142	0.215	0.307	0.368	0.113
Stdev	0.989	0.909	0.958	1.034	0.467	1.053	0.946	0.966	1.052	0.443
Min	-2.63	-0.851	-0.853	-0.757	-0.761	-2.489	-0.742	-0.731	-0.701	-0.702
25^{th}	-0.449	-0.285	-0.149	-0.103	-0.134	-0.443	-0.332	-0.151	-0.139	-0.134
50^{th}	-0.022	0.045	0.209	0.232	0.007	0.040	0.056	0.1275	0.127	0.050
75^{th}	0.396	0.396	0.466	0.478	0.486	0.478	0.431	0.531	0.513	0.379
Max	4.308	4.311	4.329	4.327	0.941	4.432	4.408	4.414	4.436	0.959
Interquartile Range	0.845	0.681	0.615	0.581	0.620	0.921	0.763	0.682	0.652	0.513

Panel B: Correlation (All Statically Significant at the 1% level)

	JM_{All}	$JM_{>1}$	$JM_{>2}$	$JM_{>3}$	$JM_{>4}$	ES_{All}	$ES_{>1}$	$ES_{>2}$	$ES_{>3}$	$ES_{>4}$
JM_{All}	1.000									
$JM_{>1}$	1.000	1.000								
$JM_{>2}$	1.000	1.000	1.000							
$JM_{>3}$	1.000	1.000	1.000	1.000						
$JM_{>4}$	0.982	0.983	0.984	0.981	1.000					
ES_{All}	0.940	0.947	0.970	0.974	0.810	1.000				
$ES_{>1}$	0.947	0.947	0.969	0.974	0.807	1.000	1.000			
$ES_{>2}$	0.968	0.968	0.969	0.972	0.799	1.000	1.000	1.000		
$ES_{>3}$	0.972	0.972	0.972	0.972	0.793	1.000	1.000	1.000	1.000	
$ES_{>4}$	0.857	0.857	0.858	0.860	0.820	0.996	0.996	0.997	0.994	1.000

Panel C: Relative Importance

	Covariance	% Explained	Covariance	% Explained
	(1)	(2)	(3)	(4)
Country of origin dummies	0.118	5.0%	0.114	4.5%
CEO time-invariant characteristics	0.034	1.4%	0.022	0.9%
CEO time-variant characteristics	0.231	9.9%	0.208	8.2%
Firm fixed effects	0.778	33.2%	0.924	36.6%
Firm time-variant characteristics	0.719	30.7%	0.490	19.4%
Year fixed effects	0.002	0.1%	0.159	6.3%
Residuals	0.458	19.6%	0.609	24.1%
Total	2.340	100.0%	2.527	100.0%
Specification	Table 3A (4)		Table 3A (8)	

Table 5: CEO Incentives and the Cultural Origin Proxy

Panel A examines determinants of the country of origin fixed effects from the pay-performance-sensitivity regressions. The dependent variables are country of origin fixed effects estimated from Table 3. Each cell corresponds to an OLS regression, where each observation is weighted by the number of CEOs from a given country. The second row denotes the specific sample used to estimate the fixed effects, where >X means countries of origin with X or fewer CEOs are excluded. Heteroskedasticity-consistent t-statistics (in parentheses) and adjusted R^2 are reported for each regression. Ln(GDP per capita) is the natural logarithm of the average GDP per capita from 1980 to 2009 in a given country using data from the World Bank. Anti-corruption is the average Transparency International's Anti-Corruption Perception Index value from 1980 to 2009 in a given country, where higher index values indicate less corruption. % Protestants is the percentage of Protestants in a given country in 1980 using data from LaPorta, Lopez-de-Silanes, Shleifer, and Vishny (1999). Panel B presents results from pay-performance-sensitivity regressions. The main sample includes 3,624 CEO-year observations from 1992 to 2011. The dependent variable in columns (1) to (4) is the natural logarithm of the Jensen-Murphy statistic, which is the dollar change in executive wealth for a $1,000 change in firm value. The dependent variable in columns (5) to (8) is the natural logarithm of the Equity-at-Stake statistic, which is the dollar change in executive wealth for a 1% change in firm value. Cultural Origin Proxy is the first principal component of ln(GDP), anti-corruption, and % of Protestants, with factor loadings of 0.581, 0.617, and 0.531 on these measures, respectively. The complete set of CEO and firm controls from Table 3 is included. Firm and year fixed effects are included. T-statistics (in parentheses) are computed using heteroskedasticity-consistent standard errors that are corrected for clustering at the birth country level. *, **, and *** denotes significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Determinants of the Country of Origin Fixed Effects

	FE(ln(Jensen-Murphy))					FE(ln(Equity-at-Stake))				
CEOs per Country	All	>1	>2	>3	>4	All	>1	>2	>3	>4
ln(GDP per capita)	-0.133**	-0.134**	-0.145**	-0.142*	-0.172**	-0.134**	-0.137**	-0.149**	-0.136**	-0.173***
	(-2.127)	(-2.075)	(-2.143)	(-1.914)	(-2.795)	(-2.319)	(-2.314)	(-2.438)	(-2.117)	(-3.356)
	4.8%	4.8%	5.2%	3.1%	29.4%	4.8%	5.0%	5.9%	2.6%	33.5%
Anti-Corruption	-0.086**	-0.094**	-0.100**	-0.107**	-0.115***	-0.081**	-0.090**	-0.097***	-0.098**	-0.113***
	(-2.539)	(-2.701)	(-2.783)	(-2.701)	(-3.497)	(-2.479)	(-2.730)	(-2.956)	(-2.767)	(-3.785)
	6.1%	7.3%	7.6%	6.9%	34.2%	5.0%	6.4%	7.2%	5.1%	36.5%
% Protestants	-0.008*	-0.008*	-0.008	-0.008	-0.007	-0.007*	-0.007*	-0.008	-0.007	-0.007
	(-1.842)	(-1.845)	(-1.660)	(-1.597)	(-1.269)	(-1.738)	(-1.739)	(-1.670)	(-1.534)	(-1.307)
	6.0%	6.4%	4.9%	4.0%	9.9%	4.0%	4.1%	3.9%	2.0%	8.8%
Cultural Origin Proxy	-0.133**	-0.141**	-0.146**	-0.152**	-0.160**	-0.126**	-0.135***	-0.144***	-0.140**	-0.157***
	(-2.581)	(-2.646)	(-2.620)	(-2.435)	(-2.681)	(-2.661)	(-2.789)	(-2.889)	(-2.615)	(-2.961)
	7.1%	8.1%	8.0%	6.8%	31.3%	6.0%	7.0%	7.8%	5.2%	33.4%
N. of Countries	44	33	26	20	17	44	33	26	20	17

Panel B: Pay-Performance-Sensitivity and the Cultural Origin Proxy

	ln(Jensen-Murphy)				ln(Equity-at-Stake)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ln(GDP)	-0.081***				-0.084***			
	(-2.788)				(-3.138)			
Anti-Corruption		-0.062***				-0.055***		
		(-3.063)				(-2.746)		
% Protestants			-0.003*				-0.002	
			(-1.962)				(-1.516)	
Cultural Origin Proxy				-0.076***				-0.070***
				(-2.847)				(-2.750)
CEO Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N. of Obs.	3,576	3,576	3,576	3,576	3,576	3,576	3,576	3,576
N. of Firms	286	286	286	286	286	286	286	286
N. of CEOs	699	699	699	699	699	699	699	699
R^2_{adj}	76.7%	76.8%	76.6%	76.8%	72.0%	71.9%	71.9%	71.9%

Table 6: Testing the Work Attitudes Channel

This table examines the work attitudes channel using data from the U.S. General Social Survey (GSS). The full sample includes all respondents and the restricted sample only includes respondents in managerial and professional occupations. Panels A and B relates the country of origin fixed effects from pay-performance-sensitivity regressions to work attitudes based on data from the GSS. Panel A presents the first stage ordered logit regressions, where the dependent variables are five survey questions described below. A set of individual controls (age, gender, education, real income, health, marital status, race dummies, and work status dummies) and survey year fixed effects are also included. The last row reports the results of a Chi^2 test for the equality of the country of origin fixed effects. Panel B presents the second stage regressions. The dependent variables are the country of origin fixed effects from the pay-performance-sensitivity regressions in Table 3. The independent variables are the country of origin fixed effects from the first stage. Each cell corresponds to an OLS regression, where each observation is weighted by the number of CEOs from a given country. The second row denotes the specific sample used to estimate the pay-performance-sensitivity fixed effects, where >X means countries of origin with X or fewer CEOs are excluded. Heteroskedasticity-consistent t-statistics are in parentheses. Work Proxy is the first principal components of the five fixed effects, with loadings of -0.28, 0.53, 0.48, 0.48, and 0.42 on FE(JOBMEANS), FE(JOBINC), FE(HIINC), FE(WRKEARN), and FE(ANOMIA3), respectively. Work Proxy (restricted) is the first principal components of the five fixed effects estimated using the restricted sample, with loadings of -0.51, 0.27, 0.61, 0.55, and 0.05 on FE(JOBMEANS), FE(JOBINC), FE(HIINC), FE(WRKEARN), and FE(ANOMIA3), respectively. Economic effect is the effect on the dependent variables with respect to their standard deviations for a one standard deviation increase in the Extrinsic vs. Intrinsic measure. Panel C presents results from ordered logit regressions, where the marginal effects based on the outcome with the highest value are reported. Instead of adding country of origin dummies, the regressions include a cultural origin proxy, which is the first principal component of ln(GDP), anti-corruption, and % of Protestants, with factor loadings of 0.581, 0.617, and 0.531 on these measures, respectively. T-statistics (in parentheses) are computed using heteroskedasticity-consistent standard errors that are corrected for clustering at the birth country level. *, **, and *** denotes significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Analysis using Fixed Effects, First Stage

GSS Variable	Survey Question	Reordered Response
JOBMEANS	Which you would most prefer in a job? Work is important and gives a feeling of accomplishment.	1 (least important) to 5 (most important)
JOBINC	Which you would most prefer in a job? High Income.	1 (least important) to 5 (most important)
HIINC	How important do you personally consider high income is in a job?	1 (not important at all) to 5 (very important)
WRKEARN	A job is just a way of earning money – no more.	1 (strongly disagree) to 5 (strongly agree)
ANOMIA3	To make money, there are no right and wrong ways any more, only easy and hard ways.	0 (disagree) to 1 (agree)

	Full Sample					Restricted Sample				
	JOBMEANS (1)	JOBINC (2)	HIINC (3)	WRKEARN (4)	ANOMIA3 (5)	JOBMEANS (6)	JOBINC (7)	HIINC (8)	WRKEARN (9)	ANOMIA3 (10)
Individual Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Survey Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country of Origin Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N. of Obs.	13,825	13,825	3,043	3,061	3,043	7,656	7,656	1,872	1,882	1,488
R^2_{pseudo}	4.7%	1.6%	3.0%	6.1%	9.3%	4.9%	2.1%	3.3%	5.1%	10.8%
Chi^2 test	132.49	50.21	66.96	71.22	2938.53	112.35	56.72	75.43	70.71	4284.02
Prob > Chi^2	0.000	0.009	0.0001	0.000	0.000	0.000	0.042	0.001	0.002	0.000

Panel B: Analysis using Fixed Effects, Second Stage

	FE(ln(Jensen-Murphy))					FE(ln(Equity-at-Stake))				
CEOs per Country	All	>1	>2	>3	>4	All	>1	>2	>3	>4
FE(JOBMEANS)	-2.610**	-2.462*	-2.527*	-2.620*	-3.317**	-2.501**	-2.390**	-2.623**	-2.695**	-3.502***
	(-2.213)	(-2.046)	(-2.004)	(-2.113)	(-3.049)	(-2.439)	(-2.314)	(-2.507)	(-2.612)	(-4.110)
FE(JOBINC)	6.0584***	5.768***	5.694**	5.745**	6.425**	5.069**	4.804**	4.908**	4.908**	5.772**
	(3.088)	(2.874)	(2.760)	(2.859)	(3.148)	(2.413)	(2.240)	(2.290)	(2.335)	(2.684)
FE(HIINC)	4.8505**	4.709**	5.072**	5.976**	3.616**	4.773**	4.635**	5.200**	6.149**	3.863***
	(2.225)	(2.139)	(2.197)	(2.294)	(2.670)	(2.169)	(2.099)	(2.252)	(2.285)	(3.870)
FE(WRKEARN)	6.2666	8.527*	9.195*	11.749*	8.030	6.173	8.318	9.633*	12.129*	8.789*
	(1.197)	(1.736)	(1.796)	(2.068)	(1.510)	(1.209)	(1.714)	(1.913)	(2.099)	(1.903)
FE(ANYWAYMONEY)	0.1827**	0.182**	0.192**	0.187**	0.267***	0.167***	0.167***	0.172**	0.167**	0.249***
	(2.777)	(2.856)	(2.830)	(2.755)	(7.036)	(2.873)	(2.974)	(2.728)	(2.658)	(6.496)
Work Proxy	0.131***	0.134***	0.139***	0.136***	0.143***	0.109***	0.111***	0.116***	0.113***	0.122***
	(4.857)	(4.984)	(4.962)	(4.510)	(5.134)	(3.544)	(3.650)	(3.735)	(3.454)	(3.810)
Work Proxy (restricted)	0.252**	0.258**	0.264**	0.288**	0.231*	0.263**	0.267**	0.279**	0.301**	0.255**
	(2.144)	(2.180)	(2.193)	(2.273)	(2.196)	(2.326)	(2.348)	(2.417)	(2.429)	(3.030)
Economic Effect	19.6%	22.9%	23.0%	23.4%	62.0%	16.1%	18.6%	19.1%	18.9%	57.2%
Economic Effect (restricted)	29.3%	35.1%	36.6%	40.1%	61.7%	30.3%	35.7%	38.3%	40.9%	73.8%
N. of Countries	24	21	17	14	11	24	21	17	14	11

Panel C: Analysis using the Cultural Origin Proxy

	Full Sample					Restricted Sample				
	JOBMEANS (1)	JOBINC (2)	HIINC (3)	WRKEARN (4)	ANOMIA3 (5)	JOBMEANS (6)	JOBINC (7)	HIINC (8)	WRKEARN (9)	ANOMIA3 (10)
Cultural Origin Proxy	0.028***	-0.007***	-0.024***	-0.007***	-0.038***	0.028***	-0.007***	-0.0210***	-0.005***	-0.037***
	(4.684)	(-3.301)	(-2.851)	(-3.296)	(-5.731)	(4.503)	(-3.656)	(-2.793)	(-2.561)	(-7.738)
Individual Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Survey Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N. of Obs.	13,825	13,825	3,043	3,061	3,043	7,656	7,656	1,872	1,882	1,488
R^2_{pseudo}	4.5%	1.5%	2.2%	5.5%	7.7%	3.4%	1.6%	1.7%	3.7%	8.5%

Table 7: Testing the Risk Attitudes Channel

This table examines the risk attitudes channel. Panel A relates the country of origin fixed effects from pay-performance-sensitivity regressions to risk attitudes based on data from the U.S. General Social Survey (GSS). The full sample includes all respondents and the restricted sample only includes respondents in managerial and professional occupations. The three survey questions used are: SECJOB, JOBSEC, and INVESTGN. In the (unreported) first stage, the survey responses are regressed on a set of individual controls (age, gender, education, real income, health, marital status, race dummies, and work status dummies), survey year fixed effects, and country of origin dummies. The second stage results are reported. The dependent variables are the country of origin fixed effects from the pay-performance-sensitivity regressions in Table 3. The independent variables are the country of origin fixed effects from the first stage. Each cell corresponds to an OLS regression, where each observation is weighted by the number of CEOs from a given country. The second row denotes the specific sample used to estimate the pay-performance-sensitivity fixed effects, where >X means countries of origin with X or fewer CEOs are excluded. Heteroskedasticity-consistent t-statistics are in parentheses. Risk Aversion is the first principal components of the three fixed effects, with loadings of 0.54, 0.61, and -0.58 on FE(SECJOB), FE(JOBSEC), and FE(INVESTGN), respectively. In Panel B, the dependent variables are country of origin fixed effects from pay-performance-sensitivity regressions in Table 3. The independent variables are country of origin fixed effects from corporate policy regressions. Each cell corresponds to an OLS regression, where each observation is weighted by the number of CEOs from a given country. The second row denotes the specific sample used to estimate the fixed effects, where >X means countries of origin with X or fewer CEOs are excluded. Heteroskedasticity-consistent t-statistics are in parentheses. In Panel C, the main sample includes CEO-year observations from 1992 to 2011 with non-missing regressors. The dependent variables are corporate policy measures. Cultural origin proxy is the first principal component of ln(GDP), anti-corruption, and % of Protestants, with factor loadings of 0.581, 0.617, and 0.531 on these measures, respectively. The complete set of CEO and firm controls from Table 3 is included. Firm and year fixed effects are included. T-statistics (in parentheses) are computed using heteroskedasticity-consistent standard errors that are corrected for clustering at the birth country level. *, **, and *** denotes significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Analysis using the GSS Data and Fixed Effects

GSS Variable	Survey Question	Reordered Response
SECJOB	How important do you personally consider job security is in a job?	1 (not important at all) to 5 (very important)
JOBSEC	Which you would most prefer in a job? No danger of being fired.	1 (least important) to 5 (most important)
INVESTGN	In the last twelve months, have you invested money in a stock or mutual fund?	1 (not at all) to 4 (6 or more times)

	FE(ln(Jensen-Murphy))					FE(ln(Equity-at-Stake))				
CEOs per Country	All	>1	>2	>3	>4	All	>1	>2	>3	>4
FE(SECJOB)	3.720	3.842	4.836	6.184*	3.052	3.037	3.224	4.489	5.657	2.483
	(1.362)	(1.368)	(1.515)	(1.804)	(1.348)	(1.100)	(1.142)	(1.415)	(1.617)	(1.148)
FE(JOBSEC)	-5.981	-9.221	-9.177	-6.550	-7.032	-3.247	-4.551	0.143	2.601	3.299
	(-0.883)	(-1.357)	(-1.065)	(-0.717)	(-0.764)	(-0.375)	(-0.482)	(0.013)	(0.233)	(0.323)
FE(INVESTGN)	-0.096	-1.848	-2.142	-2.386	-1.614	0.042	-2.822	-2.973	-3.163	-2.463
	(-0.097)	(-0.851)	(-0.880)	(-0.970)	(-0.607)	(0.033)	(-1.416)	(-1.321)	(-1.390)	(-1.005)
Risk Aversion	0.177	0.254	0.395	0.580	0.242	0.153	0.265	0.483	0.663	0.344
	(0.797)	(0.844)	(0.981)	(1.252)	(0.681)	(0.678)	(0.892)	(1.258)	(1.496)	(1.110)
Risk Aversion (restricted)	0.133	0.145	0.158	0.188	0.085	0.154	0.179	0.210	0.238	0.138**
	(1.193)	(1.174)	(1.175)	(1.231)	(1.223)	(1.378)	(1.473)	(1.520)	(1.503)	(2.449)
N. of Countries	24	21	17	14	11	24	21	17	14	11

Panel B: Analysis using Corporate Policies and Fixed Effects

	FE(ln(Jensen-Murphy))					FE(ln(Equity-at-Stake))				
CEOs per Country	All	>1	>2	>3	>4	All	>1	>2	>3	>4
FE(Leverage)	5.611	6.804	8.191*	9.020*	1.901	4.550	5.839	7.418	8.364	0.825
	(1.320)	(1.558)	(1.775)	(1.837)	(0.698)	(0.992)	(1.240)	(1.523)	(1.615)	(0.268)
FE(Cash)	0.321	-0.577	0.200	-0.830	-1.645	0.347	-0.713	0.025	-1.744	-2.0714
	(0.112)	(-0.151)	(0.047)	(-0.155)	(-0.294)	(0.125)	(-0.193)	(0.006)	(-0.349)	(-0.390)
FE(Capital Expenditure)	-4.298	-7.159*	-7.012*	-7.506*	-4.468	-3.312	-6.914*	-6.838*	-7.639*	-6.470*
	(-0.950)	(-1.869)	(-1.738)	(-1.839)	(-1.117)	(-0.679)	(-1.890)	(-1.850)	(-2.050)	(-1.868)
FE(R&D Expenditure)	-6.496	-8.286	-8.416	-11.889	-5.688	-6.289	-7.946	-8.469	-14.880*	-9.861
	(-1.304)	(-1.533)	(-1.440)	(-1.398)	(-0.763)	(-1.325)	(-1.497)	(-1.534)	(-1.943)	(-1.451)
FE(Stock Volatility)	1.974	1.630	1.902	1.471	-0.697	0.504	0.089	0.550	0.178	-2.784**
	(0.725)	(0.569)	(0.593)	(0.412)	(-0.348)	(0.189)	(0.032)	(0.178)	(0.052)	(-2.138)
N. of Countries	46	33	26	20	17	46	33	26	20	17

Panel C: Analysis using Corporate Policies and the Cultural Origin Proxy

	Leverage	Cash	Capital Expenditure	R&D Expenditure	Stock Volatility
	(1)	(2)	(3)	(4)	(5)
Cultural Origin Proxy	-0.001	-0.001	-0.000	0.001	-0.002
	(-0.732)	(-0.550)	(-0.298)	(0.880)	(-0.917)
CEO Controls	Yes	Yes	Yes	Yes	Yes
Firm Controls	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
N. of Obs.	3,566	3,385	3,254	3,386	3,240
R^2_{adj}	83.0%	77.9%	61.6%	78.1%	67.8%

Table 8: Testing the Skill Channel

This table examines the skill channel. In Panel A, only CEOs with at least one degree in the U.S. are included. The dependent variable in columns (1) and (3) is the natural logarithm of the Jensen-Murphy statistic, which is the dollar change in executive wealth for a $1,000 change in firm value. The dependent variable in columns (2) and (4) is the natural logarithm of the Equity-at-Stake statistic, which is the dollar change in executive wealth for a 1% change in firm value. In columns (1) and (2), country of origin fixed effects are included. In columns (3) and (4), the cultural origin proxy is included, which is the first principal component of ln(GDP), anti-corruption, and % of Protestants, with factor loadings of 0.581, 0.617, and 0.531 on these measures, respectively. The complete set of CEO and firm controls from Table 3 is included. Firm and year fixed effects are included. T-statistics (in parentheses) are computed using heteroskedasticity-consistent standard errors that are corrected for clustering at the birth country level. The last row reports the results of an F-test for the equality of the country of origin fixed effects. In Panel B, the dependent variables are country of origin fixed effects from pay-performance-sensitivity regressions in Table 3. The independent variables are country of origin fixed effects from total compensation and firm performance regressions. Each cell corresponds to an OLS regression, where each observation is weighted by the number of CEOs from a given country. The second row denotes the specific sample used to estimate the fixed effects, where >X means countries of origin with X or fewer CEOs are excluded. Heteroskedasticity-consistent t-statistics are in parentheses. The Skill Proxy is the first principal components of the three fixed effects, with loadings of 0.30, 0.68, and 0.67 on FE(Total Compensation), FE(ROA), and FE(Tobin's Q), respectively. In Panel C, the main sample includes CEO-year observations from 1992 to 2011 with non-missing regressors. The dependent variables are total compensation and firm performance measures. The complete set of CEO and firm controls from Table 3 is included. Firm and year fixed effects are included. T-statistics (in parentheses) are computed using heteroskedasticity-consistent standard errors that are corrected for clustering at the birth country level. *, **, and *** denotes significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Including Only CEOs with a USA Degree

	ln(Jensen-Murphy)	ln(Equity-at-Stake)	ln(Jensen-Murphy)	ln(Equity-at-Stake)
	(1)	(2)	(3)	(4)
Cultural Origin Proxy	-	-	-0.092***	-0.086***
			(-3.341)	(-3.807)
Birth Country Dummies	Yes	Yes	No	No
CEO Controls	Yes	Yes	Yes	Yes
Firm Controls	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
N. of Obs.	3,041	3,041	3,004	3,004
R^2_{adj}	77.4%	73.2%	76.3%	72.0%
F-test	5.917	4.553	-	-
Prob > F	0.000	0.000		

Panel B: Analysis using Fixed Effects

	FE(ln(Jensen-Murphy))					FE(ln(Equity-at-Stake))				
CEOs per Country	All	>1	>2	>3	>4	All	>1	>2	>3	>4
FE(Total Compensation)	-0.219	-0.242	-0.356	-0.559	-0.282	-0.309	-0.307	-0.396	-0.628	-0.490
	(-0.684)	(-0.653)	(-0.950)	(-1.421)	(-0.662)	(-0.978)	(-0.836)	(-1.117)	(-1.643)	(-1.204)
FE(ROA)	-6.838	-7.727	-8.179	-9.424	-2.310	-6.651	-7.464	-8.001	-9.495	-3.838
	(-1.087)	(-1.103)	(-1.177)	(-0.808)	(-0.213)	(-1.111)	(-1.108)	(-1.230)	(-0.876)	(-0.353)
FE(Tobin's Q)	-0.726**	-0.651	-0.753	-0.782	-0.542	-0.749**	-0.721*	-0.750	-0.858*	-0.633
	(-2.060)	(-1.667)	(-1.657)	(-1.522)	(-1.104)	(-2.291)	(-1.999)	(-1.702)	(-1.781)	(-1.445)
Skill Proxy	-1.037**	-1.060*	-1.113*	-1.248*	-0.619	-1.115**	-1.139*	-1.127*	-1.346*	-0.861
	(-2.062)	(-1.865)	(-2.043)	(-1.847)	(-1.154)	(-2.226)	(-2.022)	(-2.064)	(-2.005)	(-1.610)
N. of Countries	46	33	26	20	17	46	33	26	20	17

Panel C: Analysis using the Cultural Origin Proxy

	ln(TDC1)	ROA	Tobin's Q	Skill Proxy
	(1)	(2)	(3)	(4)
Cultural Origin Proxy	-0.003	0.001	0.029*	0.015*
	(-0.157)	(0.821)	(1.847)	(1.768)
CEO Controls	Yes	Yes	Yes	Yes
Firm Controls	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
N. of Obs.	3,382	3,386	3,374	3,341
R^2_{adj}	63.6%	73.0%	59.5%	71.4%

Table 9: Testing the Labor Market Channel

This table examines the labor market channel. In both panels, the dependent variable in columns (1), (3), and (5) is the natural logarithm of the Jensen-Murphy statistic, which is the dollar change in executive wealth for a $1,000 change in firm value. The dependent variable in columns (2), (4), and (6) is the natural logarithm of the Equity-at-Stake statistic, which is the dollar change in executive wealth for a 1% change in firm value. The sample in columns (1) and (2) excludes foreign-born CEOs that came to the United States at or after age 30. The sample in columns (3) and (4) excludes foreign-born CEOs that came to the United States in 1980 or later. The sample in columns (5) and (6) excludes CEO-year observations where foreign-born CEOs have been in the United States for 15 years or less. In Panel A, country of origin fixed effects are included. The last row reports the results of an F-test for the equality of the country of origin fixed effects. In Panel B, the cultural origin proxy is included, which is the first principal component of ln(GDP), anti-corruption, and % of Protestants, with factor loadings of 0.581, 0.617, and 0.531 on these measures, respectively. The complete set of CEO and firm controls from Table 3 is included. Firm and year fixed effects are included. T-statistics (in parentheses) are computed using heteroskedasticity-consistent standard errors that are corrected for clustering at the birth country level.

Panel A: Analysis using Birth Country Dummies

	Came to USA before age 30		Came to USA before 1980		More than 15 years in USA	
	ln(Jensen-Murphy)	ln(Equity-at-Stake)	ln(Jensen-Murphy)	ln(Equity-at-Stake)	ln(Jensen-Murphy)	ln(Equity-at-Stake)
	(1)	(2)	(3)	(4)	(5)	(6)
Birth Country Dummies	Yes	Yes	Yes	Yes	Yes	Yes
CEO, Firm Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm, Year FE	Yes	Yes	Yes	Yes	Yes	Yes
N. of Obs.	3,127	3,127	3,134	3,134	3,325	3,325
R^2_{adj}	77.7%	71.7%	77.4%	71.4%	77.8%	71.8%
F-test	7.735	5.933	5.430	4.031	6.035	4.663
Prob > F	0.000	0.000	0.000	0.000	0.000	0.000

Panel B: Analysis using the Cultural Origin Proxy

	Came to USA before age 30		Came to USA before 1980		More than 15 years in USA	
	ln(Jensen-Murphy)	ln(Equity-at-Stake)	ln(Jensen-Murphy)	ln(Equity-at-Stake)	ln(Jensen-Murphy)	ln(Equity-at-Stake)
	(1)	(2)	(3)	(4)	(5)	(6)
Cultural Origin Proxy	-0.070**	-0.076**	-0.081**	-0.071**	-0.069**	-0.060**
	(-2.167)	(-2.591)	(-2.663)	(-2.420)	(-2.363)	(-2.230)
CEO, Firm Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm, Year FE	Yes	Yes	Yes	Yes	Yes	Yes
N. of Obs.	3,099	3,099	3,106	3,106	3,284	3,284
R^2_{adj}	75.9%	69.9%	76.4%	70.4%	76.5%	70.4%

Table 10: All CEOs

This table presents results from pay-performance-sensitivity regressions. The sample includes 16,967 CEO-year observations from 1992 to 2011. Country of origin is identified based on the CEO's surname. The dependent variable in columns (1) and (3) is the natural logarithm of the Jensen-Murphy statistic, which is the dollar change in executive wealth for a $1,000 change in firm value. The dependent variable in columns (2) and (4) is the natural logarithm of the Equity-at-Stake statistic, which is the dollar change in executive wealth for a 1% change in firm value. Cultural Origin Proxy is the first principal component of ln(GDP), anti-corruption, and % of Protestants, with factor loadings of 0.581, 0.617, and 0.531 on these measures, respectively. All control variables are defined in the Data Appendix. Firm and year fixed effects are included as specified. T-statistics (in parentheses) are computed using heteroskedasticity-consistent standard errors that are corrected for clustering at the birth country level. *, **, and *** denotes significance at the 10%, 5%, and 1% levels, respectively. The last row reports the results of an F-test for the equality of the country of origin fixed effects.

	ln(Jensen-Murphy)	ln(Equity-at-Stake)	ln(Jensen-Murphy)	ln(Equity-at-Stake)
	(1)	(2)	(3)	(4)
Cultural Origin Proxy	-	-	-0.071**	-0.073**
			(-2.772)	(-2.321)
CEO Controls				
Birth Year	-0.038	-0.026**	-0.041	-0.030***
	(-1.631)	(-2.769)	(-1.707)	(-3.065)
Female	-0.091**	-0.163***	-0.098**	-0.175***
	(-2.390)	(-3.280)	(-2.127)	(-2.976)
Years of Education	-0.014	-0.010	-0.014	-0.011
	(-1.232)	(-1.054)	(-1.095)	(-1.014)
MBA Degree	-0.016	-0.006	-0.012	0.003
	(-0.360)	(-0.133)	(-0.237)	(0.068)
Selective School	0.113***	0.068**	0.092**	0.047
	(3.765)	(2.451)	(2.215)	(1.143)
Military Experience	0.008	-0.023	0.004	-0.030
	(0.152)	(-0.275)	(0.085)	(-0.364)
$\ln(\text{CEO Age})_t$	-1.362	-0.701	-1.557	-0.946
	(-0.969)	(-1.388)	(-1.073)	(-1.712)
$\ln(\text{CEO Tenure})_t$	0.384***	0.370***	0.387***	0.375***
	(23.529)	(32.780)	(25.529)	(35.731)
CEO Director_t	0.694***	0.822***	0.721***	0.845***
	(5.498)	(5.458)	(6.038)	(5.858)
CEO Chairman_t	0.258***	0.303***	0.257***	0.303***
	(16.019)	(26.112)	(15.282)	(25.166)
Insider CEO_t	-0.078***	-0.071***	-0.083***	-0.079***
	(-5.387)	(-2.869)	(-4.961)	(-3.766)
Firm Controls				
$\ln(\text{Assets})_{t-1}$	-0.338***	0.274***	-0.343***	0.270***
	(-20.553)	(20.734)	(-20.643)	(18.979)
$\ln(1+\text{Age})_t$	-0.883***	-1.072***	-0.882***	-1.071***
	(-8.769)	(-6.139)	(-8.787)	(-6.219)
$\text{Market-to-book}_{t-1}$	-0.035***	0.134***	-0.035***	0.134***
	(-4.630)	(8.343)	(-4.017)	(7.758)
Leverage_{t-1}	0.330***	-0.392***	0.342***	-0.378***
	(5.464)	(-5.193)	(5.983)	(-5.250)
$\text{Stock Volatility}_{t-1}$	0.185***	-0.222***	0.201***	-0.209***
	(11.352)	(-8.396)	(13.699)	(-6.718)
ROA_{t-1}	-0.249***	1.342***	-0.275***	1.315***
	(-2.893)	(9.217)	(-3.279)	(9.216)
$\text{Stock Returns}_{t-1}$	0.045*	0.170***	0.048*	0.172***
	(1.892)	(4.833)	(1.998)	(4.845)
Country of Origin Dummies	Yes	Yes	No	No
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
N. of Obs.	16,967	16,967	16,967	16,967
N. of Firms	2,280	2,280	2,280	2,280
N. of CEOs	3,434	3,434	3,434	3,434
R^2_{adj}	78.6%	74.7%	78.4%	74.5%
F-test	8.710	6.437	-	-
Prob > F	0.000	0.000		

Data Appendix

This table provides definitions for the main variables used in the empirical analysis. Accounting data are from Compustat, where the Compustat variable names are in italics. Stock return data are from CRSP. Other sources are specified in variable definitions. All dollar values are in dollars of 2008 purchasing power using the Consumer Price Index. All accounting variables are winsorized at the 1st and 99th percentiles of their empirical distribution.

Variable	Definition
CEO Variables	
Country of Origin Dummies	A set of dummies based on the CEO's country of birth. Source: *Marquis Who's Who*, Forbes, NNDB, and online searches.
Cultural Origin Proxy	The first principal component of ln(GDP), anti-corruption, and % of Protestants, with factor loadings of 0.581, 0.617, and 0.531 on these measures, respectively.
Ln(Jensen-Murphy)	Natural logarithm of the Jensen-Murphy statistic, which is the dollar change in executive wealth for a $1,000 change in firm value, and is calculated as the executive's fractional equity ownership ((number of shares held + number of options held×average option delta)/(number of shares outstanding)) multiplied by $1,000. Option deltas are computed using the Core and Guay (2002) approximation. Source of compensation data: Execucomp.
Ln(Equity-at-Stake)	Natural logarithm of the Equity-at-Stake statistic, which is the dollar change in executive wealth for a 1% change in firm value, and is the product of the executive's fractional equity ownership ((number of shares held + number of options held×average option delta)/(number of shares outstanding)) and the firm's equity market capitalization. Source of compensation data: Execucomp.
Birth Year	The CEO's year of birth. Source: Execucomp, *Marquis Who's Who*, Forbes, NNDB, and online searches.
Female	A dummy that equals one (zero otherwise) for female executives. Source: Execucomp.
Years of Education	Total number of years the CEO has been in schools. Source: *Marquis Who's Who*, Forbes, NNDB, and online searches.
MBA Degree	A dummy that equals one (zero otherwise) if the CEO has received a MBA degree. Source: Execucomp, *Marquis Who's Who*, Forbes, NNDB, and online searches.
Selective School	A dummy that equals one (zero otherwise) if the CEO has received a degree from Brown University, Columbia University, Cornell University, Dartmouth College, Harvard University, Princeton University, Yale University, MIT, Stanford, Duke, University of Chicago, University of Pennsylvania, or California Institute of Technology. Source: *Marquis Who's Who*, Forbes, NNDB, and online searches.
Military Experience	A dummy that equals one (zero otherwise) if the CEO has served in the armed forces in the U.S. or in another country. Source: *Marquis Who's Who*, Forbes, NNDB, and online searches.
ln(CEO Age)	Natural logarithm of the CEO's age. Source: Execucomp, *Marquis Who's Who*, Forbes, NNDB, and online searches.

ln(CEO Tenure)	Natural logarithm of the number of years the CEO has been in the current position. Source: Execucomp, *Marquis Who's Who*, Forbes, NNDB, and online searches.
CEO Director	A dummy that equals one (zero otherwise) if the CEO is a director. Source: Execucomp.
CEO Chairman	A dummy that equals one (zero otherwise) if the CEO is the chairman of the board. Source: Execucomp.
Insider CEO	A dummy that equals one (zero otherwise) is the CEO is an internal candidate. Source: Execucomp, *Marquis Who's Who*, Forbes, NNDB, and online searches.
Total Compensation	Natural logarithm of TDC1, which includes salary, bonus, other annual, total value of restricted stock granted, total value of stock options granted (using Black-Scholes), long-term incentive payouts, and all other total. Source: Execucomp.
ln(GDP)	The natural logarithm of the average GDP per capita from 1980 to 2009 in a given country. Source: World Bank.
Anti-Corruption	The average Transparency International's Anti-Corruption Perception Index value from 1980 to 2009 in a given country, where higher index values indicate less corruption. Source: Transparency International.
% Protestants	The percentage of Protestants in a given country in 1980. Source: LaPorta, Lopez-de-Silanes, Shleifer, and Vishny (1999).
Firm Variables	
Ln(Assets)	Natural logarithm of total assets (*AT*).
Ln(1+Age)	Natural logarithm of one plus the number of years the firm has been in Compustat.
Market-to-book	Market value of assets over book value of assets ((*CSHO*×*PRCC_F*+*PSTK*+*DLTT*+*DLC*)/*AT)*.
Tobin's Q	Market value of assets over book value of assets ((*CSHO*×*PRCC_F*+*PSTK*+*DLTT*+*DLC*)/*AT)*.
Leverage	Debt over book value of assets ((*DLTT*+*DLC*)/*AT*).
Stock Volatility	Annualized standard deviation of daily returns.
Stock Return	Stock Return is the raw stock return over the prior year.
ROA	Operating income before depreciation (*OIBDP*) divided by total assets (*AT*).
Cash	Cash (*CHE*) divided by total assets (*AT*).
Capital Expenditure	Capital expenditure (*CAPX*) divided by total assets (*AT*).
R&D Expenditure	R&D expenditure (*XRD*) divided by total assets (*AT*).