The Cultural Origin of Preferences: CEO Cultural Heritage and Corporate Acquisitions

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Abstract

Does culture shape economic preferences? While economic models of the origins of preferences point to an important role of culture, supporting empirical evidence is largely missing for risk and time preferences. In this study, we exploit variation in cultural heritage across CEOs of public U.S. companies and demonstrate that CEOs' culturally inherited attitudes towards uncertainty and risk negatively affect corporate acquisitiveness. Conditional on engaging in acquisitions, CEOs from more risk and uncertainty avoiding cultures try to reduce risk by choosing targets with higher diversification potential and by using equity financing. Our findings are robust to genetic, institutional, and economic differences across countries of origin. Most of the social transmission of risk attitudes occurs through national culture rather than religion. Cultural differences with respect to risk preference persist over multiple generations, while there is also evidence consistent with gradual assimilation.

JEL classification:
Key words: Culture, corporate culture, risk preferences, corporate investment, CEOs

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1. Introduction

There is significant variation in economic preferences, such as risk and time preferences, across individuals. For example, some take a lot of risk when making investment decisions, while others avoid risk. Recent research has provided insights into the source of the heterogeneity in risk as well as time preferences, emphasizing the role of biological determinants (e.g., Cesarini et al. (2009), Cronqvist and Siegel (2014)) as well as events and experiences throughout individuals' lives (e.g., Malmendier and Nagel (2011)). What role does culture play in shaping economic preferences? In this paper, we explore this question. In particular, we propose a measure of culturally transmitted attitudes towards risk and uncertainty for Chief Executive Officers (CEOs) of large, public U.S. firms, and study its relationship with corporate acquisition decisions.

Culture is the set of preferences and beliefs widely shared by a group of people (Fernandez (2011)). Culture is transmitted socially, through imitation and learning, from parents to their children, between peers, and in an oblique way by society as a whole. Although culture is often slow-moving and increasingly understood as one source of selection in human evolution (Laland et al. (2010)), the social transmission mechanism is important, as it allows for a faster and more calculated response to environmental changes than would be possible by genetic evolution alone (Robalino and Robson (2013)). However, despite the proposed importance of cultural transmission of preferences, empirically identifying the effect of cultural heritage on preferences is challenging. On the one hand, cross-country studies that document significant correlations between national culture and savings and investment decisions of households and firms (e.g., Guiso, Sapienza, and Zingales (2006), Shao, Kwok, and Zhang (2013)) cannot easily separate the effects of cultural differences from institutional and economic differences across countries. On the other hand, studies of households in a single country often face the problem of cultural homogeneity. Studying acquisition decisions of CEOs in the U.S. allows us to exploit variation in culturally transmitted preferences that might be absent in culturally more

homogenous countries, while at the same time holding constant the institutional and economic environment.

Making investment decisions under uncertainty is a central task for corporate executives and in particular CEOs. While in simple and frictionless models CEO preferences might not matter for corporate policies, several studies have shown that corporate decisions are not independent of CEO characteristics (e.g., Bertrand and Schoar (2003), Malmendier and Tate (2005)). A relationship between firm policies and CEO characteristics can reflect the outcome of a matching process between CEOs and firms or the causal influence of CEOs on firm policies. In this paper, we do not attempt to distinguish between these two explanations. Instead, we test whether CEOs' *culturally transmitted* risk preferences are related to corporate acquisition decisions at all. We focus on corporate acquisitions as the main decision variable for two reasons. First, acquisitions and the integration or reorganization associated with them are often marked by significant uncertainty and can pose significant risk for the acquirer and the reputation of its CEO. Second, acquisitions typically deserve and require more CEO involvement and allow for more CEO discretion. Thus, the CEO's attitude towards risk and uncertainty is likely important in determining acquisition decisions.

An important advantage of studying the culturally transmitted risk preferences of executives of public companies as opposed to of individual households is that we can easily obtain the last names of corporate executives. We use these last names to infer the executives' cultural heritage and to measure their culturally transmitted preferences.[1] We focus on national cultures as opposed to cultures associated with intra- or international ethnic or religious groups.[2] Specifically, we identify CEOs of public U.S. firms between 1980 and 2012 and match their last

[1] Similar to our approach, Grinblatt and Keloharju (2001) use the last name and native language of CEOs in Finland to distinguish between Swedish and Finnish CEOs, while Kerr and Lincoln (2010), Gompers, Mukharlyamov, and Xuan (2012), Liu (2013), and Du, Yu, and Yu (2014) use last names to infer ethnicity in U.S. settings.

[2] One important exception is that we classify individuals of Jewish heritage as Jewish independently of the country of origin.

names to immigration records of passengers arriving in the port of New York between 1820 and 1957. Based on the citizenship of arriving passengers with a given last name, we obtain a distribution of countries of origin for each last name. For example, according to the New York passenger lists, 55% of passengers with the last name *Welch* are of English origin, while 25% are Irish. The remaining 20% come from a variety of other countries. For each CEO, we then calculate culturally determined risk preferences as the weighted average of the preference parameters associated with these countries of origin. This approach yields culturally transmitted preferences that are independent of personal characteristics and, in particular, personal experiences that could also affect risk attitudes.

Finally, to measure risk preferences associated with a national culture, we employ Hofstede's (1980, 1991, 2001) uncertainty avoidance index (UAI), which captures a culture's tolerance for uncertain and unfamiliar situations. Hofstede's dimensions of national cultures are widely recognized and employed in social science research, robust to replication, and available for a large set of countries.[3] Importantly, while much of research in finance focuses on risk as opposed to uncertainty, outcomes to corporate decisions in general, and acquisition decisions in particular, are exposed to substantial uncertainty, which according to Knight (1921) represents unmeasurable or uninsurable risks. Knight (1921, p. 232) explicitly states that "*[i]t is this true uncertainty which ... gives the characteristic form of `enterprise' to economic organization as a whole*." Throughout the paper, we therefore use uncertainty avoidance (UAI), risk preferences, and risk attitudes interchangeably.

Our results can be summarized as follows. CEOs with larger culturally transmitted uncertainty avoidance are significantly less likely to engage in corporate acquisitions. A one standard deviation increase in the CEO's uncertainty avoidance is related to a 16% reduction in the probability of acquisitions and a 17% reduction in the acquisition expenditures to assets rate. The effect is comparable in magnitude to other studies of CEO characteristics affecting M&A

[3] As of December 2015, Hofstede's Google Scholar profile listed over 132,000 citations.

decisions. Consistent with a CEO's UAI indeed approximating culturally transmitted preferences towards risk and uncertainty, CEOs with a more uncertainty avoidant cultural heritage tend to select less risky targets, i.e., target with a lower cash flow correlation with the acquirer, and are more likely to share risk with the target's shareholders by using equity to finance the acquisition.

While the effect of culturally transmitted uncertainty avoidance on corporate acquisitions is stronger for the small set of first-generation immigrant CEOs, it also obtains for CEOs whose families have likely come to the U.S. even before 1900. At the same time, the effect size decreases with the time a family has likely been in the U.S. Thus, our results are consistent with a persistent effect of cultural heritage with respect to risk preferences as well as with a gradual assimilation process.

Finally, the effect of UAI is robust to culturally transmitted attitudes towards thrift and many other dimensions of national culture. We also find little support for the possibility that economic and genetic differences across countries of origins explain our results. By using a CEO's mother's maiden to infer the CEO's culturally transmitted risk preferences, we can partly rule out the concern that our results are caused by stereotyping in the CEO selection process.

In many ways, our research approach is biased against finding evidence that culturally transmitted preferences matter. First, the families of U.S. executives have likely been in the U.S. for several generations. Hence, the influence of cultural heritage on risk preferences is likely weaker in our study than in studies that use first or second generation immigrants to the U.S. (e.g., Fernandez (2007), Fernandez and Fogli (2009)). Furthermore, the characteristics of those leaving their home countries to immigrate to the U.S. may deviate from their home country's cultural norms (e.g., Borjas and Bratsberg (1996)), potentially adding noise to our proxies. Finally, different from financial decisions at the household level, the interaction between CEO preferences and corporate decisions, particularly in publicly traded companies, occur in an environment in which various institutional constraints apply. Hence, any support for a cultural

effect in our setting would likely represent a lower bound for the true effect of culturally transmitted preferences on individual decision making.

Our paper contributes to the growing literature on the origin of economic preferences by explicitly documenting the social transmission of attitudes towards uncertainty. Despite compelling theoretical arguments for social, i.e., non-biological, transmission of preferences, (see, e.g., Robalino and Robson (2013) and Bisin and Verdier (2001)), empirical support with respect to risk preferences is largely missing. Recent studies of Swedish twins also find little evidence of social transmission within families (Cesarini et al. (2010), Barnea, Cronqvist and Siegel (2010)).[4] In related work on savings behavior, Carroll, Rhee, and Rhee (1994, 1999) studying savings behavior of immigrants to Canada and the U.S. fail to find evidence in support of cultural transmission.[5] A recent exception is Ahern, Duchin, and Shumway (2014) who find evidence of peer effects among MBA students with respect to risk preferences. However, the lack of support for vertical social transmission of risk and time preferences contrasts with studies by Fernandez and Fogli (2006, 2009), who document the influence of culture on female labor market participation and fertility choices of second generation immigrants to the U.S.[6] Our study suggests that CEOs' culturally determined risk preferences do have an economically meaningful impact on corporate acquisition decisions in a large sample of public U.S. companies, thus providing novel and important support for the social transmission of risk preferences and more broadly for the importance of culture for economic outcomes.

[4] While there is significant parent-child similarity with respect to savings and risk-taking behavior (e.g., Chiteji and Stafford (1999), Charles and Hurst (2003)), there is little evidence of a cultural channel within families once genetic transmission has been accounted for.

[5] The authors point out that the results could be due to data limitations in the Canadian study and sample selection in the U.S. study, as immigrants to the U.S. from Mexico may belong to a very different socioeconomic stratum than those from, for example, Germany. The sample selection issue is mitigated in our research setting, as we focus on a group of individuals--top corporate executives--who are likely to come from a more homogeneous socioeconomic stratum than immigrant households in the U.S. in the 1980s and 90s.

[6] See also Ichino and Maggi (2000) and Guiso, Sapienza, and Zingales (2004) who show the effect of culture on work attitudes and financial development using movers within Italy.

Our paper is also related to research in economics and sociology on the speed of cultural assimilation of immigrants, particularly in the U.S. (e.g., Lazear (1999), Bisin and Verdier (2000, 2001, 2010)). The idea of a "melting pot" and fast assimilation of immigrants in the U.S. has been rejected at least since Glazer and Moynihan (1963) concluded that the melting pot "did not happen." Persistent income differences across ethnic groups have been documented by several authors (see, e.g., Farley (1990)). In a recent study, Giavazzi, Petkov, and Schiantarelli (2014) examine cultural differences for a large set of social preferences and beliefs. They show that the degree of persistence varies across preferences and believes as well as countries of origin. Less than 8% of the CEOs in our sample are first-generation immigrants. Our empirical tests are therefore joint tests of the importance of culturally transmitted preferences and the persistence of cultural differences in the U.S. Our findings offer the first direct evidence on the persistence of culturally transmitted risk preferences in the U.S. and imply that cultural heritage with respect to these preferences is preserved over multiple generations.

Finally, our research also contributes to the literature on the interaction between CEOs' characteristics and corporate policies. While Bertrand and Schoar (2003) focus on CEOs' personal styles on corporate outcomes, other papers have looked at specific traits or characteristics, such as overconfidence, marital status, or gender (e.g., Malmendier, Tate, and Yan (2011), Faccio, Marchica, and Mura (2012), Roussanov and Savor (2013)). Several studies have shown that proxies or measures of CEOs' risk attitudes are related to corporate policies (e.g., Cronqvist, Makhija, and Yonker (2012), Cain and McKeon (2014), and Graham, Harvey, and Puri (2013)). However, these papers are not concerned with the origin of CEOs' risk preferences. Another strand of studies examines how CEOs' risk preferences are potentially shaped by early-life experiences (Bernile, Bhagwat, and Rau (2014)) and work experiences (Custodio and Metzger (2014), Dittmar and Duchin (2014)). In contrast, we focus on culturally transmitted preferences and show that the size of their effect on corporate acquisitions is comparable to the size documented in prior studies. The name-based approach to measure cultural heritage of CEOs

should also be useful in many situations in which a proxy for culturally transmitted preferences or simply an exogenous proxy for preferences is needed for a large sample of CEOs.

The rest of this paper is organized as follows. Section 2 introduces the main data for our empirical analysis and provides a detailed discussion of our measures of culturally transmitted preferences. Section 3 presents our baseline results on the effect of CEOs' culturally transmitted risk preferences on corporate acquisitions as well as several robustness checks. Section 4 addresses potential alternative explanations of our results related to economic and genetic differences across countries of origins as well as stereotyping. Section 5 examines several aspects of the cultural transmission channel. Section 6 concludes.

2. Data

2.1. CEOs' Cultural Heritage

We construct a comprehensive sample of chief executive officers (CEOs) of publicly traded firms headquartered in the United States (U.S.). We identify CEOs, including their first and last name, using *Standard & Poor's ExecuComp* database, which covers S&P 1500 firms starting in 1992, and *Capital IQ*, which covers a large range of firms starting in 1996. We are able to identify 19,414 CEOs that were in office in 12,969 U.S. public firms between 1980 and 2012.[7]

We use the CEO's last name to identify the CEO's cultural heritage. In particular, we collect information from passenger lists of ships arriving from foreign ports in the port of New York between 1820 and 1957. These records, which are available through *Ancestry.com*, indicate each passenger's first and last names, gender, approximate birth year, and the passenger's ethnicity or nationality (see Appendix A for an example). For each last name in our CEO sample, we search through all available records with non-missing ethnicity or nationality data for passengers with the same last name.

[7] About 40% of CEO-firm observations are from *ExecuComp*; about 45% are from *Capital IQ*; and the remaining 15% are from the consolidated career history in *Capital IQ's People Intelligence* database.

For 863 of the 19,414 CEOs, we cannot find passenger records that are associated with their last names and also have non-missing nationality data. For each last name of the remaining 18,551 CEOs, we aggregate nationality and ethnicity data at the country level and compute the frequency distribution across 122 countries of origins, including the U.S.[8] We denote the record frequency of passengers with last name *l* from country *j* as w_{lj}. On average, a CEO's last name is associated with 25 different countries. However, the average (median) frequency of the largest origin per CEO is 51% (49%), suggesting that the passenger records may include a long list of origins with low frequencies for a given last name. For example, we have 12,208 passenger records with the last name of *Welch*, 55% of the passengers are of British origin, while 25% are Irish. The remaining 20% come from a variety of other countries. Overall, our passenger records provide a unique proxy of each CEO's heritage, reflecting over 100 years of immigration records of those arriving in New York, one of the central historical entry points to the United States.

To summarize the heritage of the CEOs in our sample, we calculate the average frequency for each country of origin across all 18,551 CEOs. Table 1 Panel A reports the most common countries of origin, the fraction that report U.S. as their nationality, as well as the fraction of non-missing, but uninformative origins ("Unidentifiable").[9] As in the 1990 U.S. Census, English, German, Irish, and Italian are the largest four ethnicities (excluding African-Americans, which rank fourth in the Census data). Appendix B reports the average frequency for all 121 countries of origins as well as those for the U.S. and Unidentifiable.

While we employ the passenger record data to identify countries of origin for most of our analysis, we consider an alternative source, which also utilizes last names. Specifically, we use the *Dictionary of American Family Names* (Dictionary) which classifies 70,315 last names along

[8] For example, we group different German origins, such as Hesse, Pomerania, and Preussen under Germany. In a few cases, we further group certain, typically smaller nationalities into larger groups. For example, we group Syrian and Tunisian passengers with those who state their nationality as "Arab", "Arabic", or "Arabian." Finally, those with Jewish ethnicity are grouped as Jewish, independently of any additional citizenship information. When necessary, we associate Jewish with data for Israel.

[9] For example, some ethnicity data is incomplete or very generic (e.g., "White").

46 possible origins.[10] Differently from our main source, the Dictionary indicates only whether a last name is associated with a given origin or not. For example, according to the dictionary the last name *Welch* is of English, German, and Welsh origin. For last names not included in the dictionary, we obtain information about ethnic origin from *List Service Direct Inc*. (LSDI), a commercial data provider that uses a proprietary algorithm to identify a person's ethnicity based on the person's first and last names. We again calculate the frequency for each CEO's last name and country of origin based on the combined Dictionary-LSDI (for short, Dictionary) data.

2.2. Culturally Transmitted Preferences

To measure CEOs' culturally transmitted preferences towards uncertainty and risk, we use Hofstede's (1980, 1991, 2001) uncertainty avoidance index (UAI) and rescale it to take on values between 0 and 1. According to Hofstede, the uncertainty avoidance index indicates "to what extent a culture programs its members to feel either uncomfortable or comfortable in unstructured situations. Unstructured situations are novel, unknown, surprising, and different from usual."[11] Hofstede constructs the index by statistically analyzing answers to questions asked in detailed interviews of hundreds of IBM employees in 53 countries between 1978 and 1983. Since then the index has been replicated several times and extended to additional countries (see, Hofstede, Hofstede, and Minkov (2010)). Hofstede et al. (2010) characterize low uncertainty avoidance cultures, like Great Britain (0.31), Ireland (0.31), China (0.27), Sweden (0.26), and Denmark (0.21), as low stress and low anxiety countries with an attitude that "what is different is curious." High uncertainty avoidance cultures, such as Greece (1.00), Portugal (0.93), Poland

[10] The Dictionary of American Family Names is based on names of about 90 million U.S. telephone subscribers, included in the 1997 edition of Info USA's ProCD Select Phone product and representing about 33% of the U.S. population in 1997. Out of 1.75 million distinct last names, 70,315 were included in the dictionary as they were sufficiently common (i.e., with at least 100 occurrences) or otherwise historically or etymologically important. Instead of nationality, the classification of origins in DAFN is based on cultural-ethnic-linguistic groups (CELG). CELG of a given last names is determined based on combined information from the first and last names. See Mateos (2007) for a detailed description of the dictionary's algorithm.

[11] See Geert Hofstede's website: http://www.geerthofstede.nl/dimensions-of-national-cultures

(0.83), France (0.77), and Italy (0.67), on the other hand, are described as high stress and high anxiety countries with an attitude that "what is different is dangerous."

The notion of uncertainty avoidance as defined by Hofstede seems quite relevant in our setting, as corporate decisions in general, but acquisition decisions in particular are often characterized by large uncertainty. Furthermore, while uncertainty and risk differ with respect to whether the probabilities of future events are known or insurable in insurance markets (LeRoy and Singell (1987)), we verify that Hofstede's country-level UAI is significantly correlated with standard measures of risk aversion. Specifically, using country-level lottery-based measures of risk aversion from Rieger, Wang, and Hens (2014), we find a correlation of 0.28 with the uncertainty avoidance index used here. Similarly, UAI and the country-level, survey-based measure of risk aversion from Becker et al. (2015) exhibit a correlation of 0.35.[12] We therefore consider uncertainty avoidance a meaningful measure of preference towards uncertainty and risk in our context.

For each CEO, we form the weighted average of the uncertainty avoidance index associated with each country of origin other than the U.S. Since we do not have UAI values for all countries of origin, we rescale the weights of all countries appropriately. That is, we calculate the UAI of a CEO with last name l as $UAI_l = \sum w_{lj}^{UAI}\, UAI_j$, where w_{lj}^{UAI} represents the rescaled frequency for last name l with respect to country j.[13] In the same way, we calculate each CEO's *UAI* based on the Dictionary origin distribution (but with equal weighting across origins).

For the subset of 13,533 CEOs that is employed in the following empirical analysis, we report summary statistics of *CEO UAI* in Panel B of Table 1. On average, CEOs exhibit uncertainty avoidance of 0.468 when measuring cultural heritage with passenger records and of

[12] Rieger, Wang, and Hens conduct a survey of about 7,000 participants in 53 countries. The reported correlation refers to risk aversion extracted from lotteries with positive expected pay-offs. Becker et al. (2015) survey 80,000 participants in 76 countries about their self-assessed willingness to take risk. We thank Benjamin Enke for providing the correlation statistic for the Becker et al. (2015) data.

[13] We cannot observe UAI for countries representing 2.5% of the average CEO's cultural heritage. For 34 CEOs we cannot calculate their UAI values, as in each case all origins with non-zero weights have missing UAI values.

0.458 when using the Dictionary-based information. The two measures of *CEO UAI* are highly correlated ($\rho = 0.85$), reflecting substantial agreement between the two sources of origins.

In addition to measuring culturally transmitted preferences, we collect CEOs' demographic information such as age (*CEO Age*), gender (*Female*), education (*CEO Education*). Panel B of Table 1 provides summary statistics for these additional CEO characteristics. Panel D of Table 1 reports the correlation between CEO UAI and other CEO characteristics and firm characteristics. Overall, the correlations are small in magnitudes.

Further, we construct an indicator variable that equals to one if the CEO is born outside the U.S. (*First Generation*). Also, we collect origin information associated with CEOs' first names from Onomap.org and construct an indicator variable that equals to one if the origin associated with a CEO's first name (based on Onomap) is the same as the largest origin associated with a CEO's last name based on the passenger records.[14] Since the data on CEO age, education, whether the CEO is born outside the U.S., and whether the origins of the first and last name coincide, is limited, we set these variables equal to zero if missing, but construct indicator variables for missing values. Appendix C provides detailed definitions of all variables.

2.3. Corporate Acquisitions and Firm Characteristics

We focus on corporate mergers and acquisitions (M&As) as the outcome variable for several reasons. First, M&As and the integration or reorganization associated with them are often marked by significant uncertainty. Second, M&A decisions usually require more CEO discretion, and thus the CEO's attitudes towards uncertainty is likely important. Bertrand and Schoar (2003) show that CEO style does have a large impact on acquisition decisions. Third, the M&A data provides rich details about the transactions, which allows us to relate CEO UAI not only to the firm's propensity (both the intensive and extensive margin) to engage in M&A, but also to some detailed deal decisions such as the choice of the target and payment method.

[14] www.onomap.org is a web site developed by the City University London. Onompa reports one origin (if available) for each first name. In case a CEO has multiple first names, we use the first given name.

We construct an indicator variable *Acquisition* that equals one if a firm engages in M&A during a given year and zero otherwise. *Acquisition Rate* is the total value of acquisitions in a year scaled by the firm's book assets. Acquisitions include completed acquisitions of assets or equity interests with disclosed transaction values covered by the SDC database.[15] Regarding the choice of the target, we consider the cash flow correlation between the acquirer and the target firms, which signals the riskiness of the deal. *Acquirer-Target Cash Flow Correlation* is computed as the correlation of quarterly cash flow (operating cash flow scaled by lagged assets) between the acquirer and the target in the 10 years before the acquisition year. We also consider the target CEO's UAI, which may reflect the target firm's overall culture towards risk and uncertainty. Lastly, we examine the deal payment method, and particularly the use of equity as the means of payment, as this reflects the degree of risk sharing between the acquirer's and the target's shareholders. *Stock Acquisition* is an indicator variable that equals to one if the acquirer has used its equity to finance a deal in the firm-year. Panel C of Table 1 reports summary statistics for these acquisition variables. Firms in our sample make acquisitions in about 15% of the firm-year observations, with an average *Acquisition Rate* of 2.6%. Among the acquirer firm-years with acquisitions, about 40% of them are associated with stock financing. In deals with both public acquirers and public targets, the cash flow correlation is on average 0.41.

Panel C of Table 1 also reports summary statistics for a number of firm characteristic typically employed as controls: size as measured by the logarithm of net sales (*Log(Sales)*); profitability as measured by EBITDA over the beginning of the period assets (*ROA*); growth prospect as measured by the logarithm of market equity over book equity (*Log(MB)*). All firm level financial variables are winsorized at the top and bottom 1% of the sample distribution. Appendix C provides definitions of all variables.

[15] We exclude leveraged buyouts, exchange offers, repurchases, spinoffs, minority stake purchases, recapitalizations, self-tenders, and privatizations.

3. CEOs' Culturally Transmitted Uncertainty Preferences and Corporate Acquisitions

3.1. Baseline Results: Acquisition Propensity and Acquisition Rate

Table 2 presents our baseline results on the relationship between CEOs' culturally transmitted preferences towards uncertainty and corporate acquisition decisions. We examine the effect of CEO's UAI on corporate acquisition propensity, *Acquisition,* and acquisition-expenditures-to-assets rate, *Acquisition Rate.* All results are obtained from linear panel regressions of firm *i*'s acquisition decision in year *t* (y_{it}) on the CEO's uncertainty avoidance index (*CEO* UAI_{it}) of the firm's CEO in year *t* and several controls:

$$y_{it} = a + bCEO\_UAI_{it} + c'X_{it} + d'Z_{it-1} + FE + \varepsilon_{it},$$

where X_{it} represents the CEO's gender, age, and education in year *t*, and Z_{it-1} denotes firm-level controls such as firm size (*Log(Sales)*), growth opportunities (*Log(MB)*), and profitability (*ROA*) at the end of the previous year. *FE* indicates various sets of fixed effects. The baseline specification includes year fixed effects, (2-digit SIC) industry fixed effects, and headquarter state fixed effects. Including industry and state fixed effects mitigates the concern that there is potential clustering of CEO ethnicity by industry or geographic area and at the same time unobservable industry or state characteristics affect corporate acquisition decisions. Thus, controlling for industry and state fixed effects allows us to estimate the firm-specific effect of CEO's UAI on acquisition decisions rather than an effect operating through industry or state characteristics. For comparison, we also report a specification without industry and state fixed effects as well as one with firm fixed effects.

Of course, an effect of CEO's *UAI* on corporate acquisition decisions could arise in a number of ways. First, it could be the result of matching between firms and CEOs. For example, firms with a more risk-taking culture might select less uncertainty averse CEOs. Pan, Siegel, and Wang (2015) provide evidence that incoming CEOs' risk preferences seem to be matched to a firm's existing risk culture. Second, it could reflect the CEO's causal impact even beyond such matching. However, our goal in this paper is not to distinguish between these two scenarios, as

both are consistent with the CEO's UAI reflecting culturally transmitted preferences towards risk and uncertainty. In the main specification, standard errors are clustered by firms to account for the lack of independence of observations within a firm. We discuss additional clustering of standard errors in Section 3.4.

Columns (1) and (2) of Table 2, Panel A indicate that firms with more uncertainty avoiding CEOs are less likely to engage in acquisition in a given year. Column (3) suggests that within the same firm, corporate acquisitiveness is lower when the CEO is more uncertainty averse. The coefficient estimates on *CEO UAI* imply that a one standard-deviation increase (0.16) in the CEO's uncertainty avoidance is related to a 2.40 percentage point (pp) decline in the likelihood that a firm will make an acquisition, a 16% decrease relative to an average annual acquisition probability of 15.0% in our sample. Put differently, the probability of making an acquisition is about 5.4 pp higher for a firm with a CEO of British origin (with a UAI of 0.31, ranked 9th) than for an otherwise similar firm with a CEO of Italian origin (with a UAI of 0.67, ranked 62nd). In columns (4) to (6), we perform the same analysis for the *Acquisition Rate*. The effect of the CEO's UAI is again negative and statistically significant; a one standard-deviation increase in *CEO UAI* is associated with a decrease in the acquisition rate by about 17% relative to the average acquisition rate.

To further gauge the economic importance of the effect from *CEO UAI* on corporate acquisition, we compare the magnitude of our estimates with the magnitude of the effect associated with alternative measures of CEO's preferences or characteristics. For example, Graham, Harvey, and Puri (2013) conduct a survey of CEOs to elicit risk preferences through responses to several gambles as in Barsky, Kimball, Juster, and Sharpio (1997). Their measure is designed to characterize CEOs' risk preferences regardless of the origin of such preferences. Although uncertainty aversion and risk aversion are not the same, the magnitudes of the results in the two studies are quite similar. In a univariate analysis, Graham et al. (2013) find that firms with highly risk-averse CEOs, which represent about 10% of the CEOs in their sample, are 9.0 pp

less likely to engage in mergers and acquisitions relative to firms of less risk-averse CEOs. By comparison, we find in our sample that CEOs whose UAI values are in the top 10% of the UAI distribution are about 7.4 pp less likely to engage in acquisitions. A smaller effect size in our study is not surprising, given that our measurement of preferences is more indirect and noisier, which we discuss in more detail below. In Appendix D, we compare the magnitude of our *CEO UAI* effect on acquisition decisions to those of other CEO characteristics, such as sensation seeking (Cain and McKeon (2014)), military experiences (Benmelech and Frydman (2014)), over-confidence (Malmendier and Tate (2008)), and gender (Huang and Kisgen (2013)). Overall, the effect of culturally transmitted CEO risk preference is comparable in magnitude to the effect of other CEO characteristics.

3.2. Additional M&A Characteristics and Other Dimensions of National Culture

While the main results in Table 2 are consistent with *CEO UAI* (partially) capturing a CEO's attitudes towards uncertainty, we now provide further evidence utilizing the rich data on acquisition deals as well as controlling for other dimensions of national culture.

3.2.1. Additional M&A Characteristics

How does a CEO's uncertainty avoidance affect other risk-related dimensions of M&A transactions, such as the choice of the target and the deal payment? Some acquisitions are riskier than others, especially from the acquiring manager's perspective. For example, acquiring a target within the same industry or with a high cash flow correlation with the acquirer can increase the riskiness of the combined firm (see, Lewellen (1971), Amihud and Lev (1981), May (1995), Acharya, Amihud, and Litov (2011), Cain and McKeon (2014), Gormley and Matsa (2011, 2014)). We thus expect more uncertainty avoiding CEOs to choose target firms having lower cash flow correlation with their own firms. We thus relate *Acquirer-Target Cash Flow Correlation* to the acquirer CEO's UAI. The result in column (1) of Table 3 is indeed consistent with our expectation.

An uncertainty avoiding CEO may also prefer a target firm with a similar attitude towards risk and uncertainty, as measured by target CEO's uncertainty avoidance. In the acquisition sample, the correlation between acquirer and target CEOs' UAIs is 0.31. The result in column (2) suggests this relation to be robust to various firm- and manager-level controls as well as various fixed effects. There seems to be matching in the risk attitudes of the acquirer's and target's CEOs, potentially reflecting compatibility in the risk culture of the two firms.

Finally, we examine whether acquiring CEO's UAI affects deal payment, in particular, the use of equity as the means of payment. The more a firm uses its equity to pay for an acquisition, the more risk sharing there is between the acquirer's and the target's shareholders. Column (3) suggests that more uncertainty avoiding acquiring CEOs are indeed more likely to use equity to finance their acquisitions.

Overall, the results in Table 3 support the interpretation that a CEO's UAI is a meaningful measure of a CEO's culturally inherited preference towards risk and uncertainty.

3.2.2. Other Dimensions of National Culture

Empirical evidence suggests that acquirers might overspend in corporate acquisitions, resulting in negative announcement and negative long run abnormal returns for the acquirer (see, e.g., Rau and Vermaelen (1998), Moeller, Schlingemann, and Stulz (2005), Malmendier, Moretti, and Peters (2012)). Acquisition decisions might therefore also reflect attitudes towards thrift and frugality, and our evidence on the importance of UAI could be confounded by cultural traits towards thrift or savings behavior. We construct a variable that captures the importance of thrift in the countries of origins associated with a CEO's last name. Following Guiso, Sapienza, and Zingales (2006), for each country of origin we calculate the fraction of respondents in the World Value Survey (WVS) that identify thrift and saving money as an important quality and then calculate *CEO Thrift* for each CEO as the weighted average using the passenger-records-based frequency weights. We indeed observe a statistically significant and positive correlation of 41% (p-value<0.1%) between *CEO UAI* and *CEO Thrift*. Results are reported in Panel A of Table 4.

While *CEO Thrift* is significantly negatively related to *Acquisition* and *Acquisition Rate*, it loses significance once *CEO UAI is* included. At the same time, the estimated effect of *CEO UAI* on acquisition decisions is similar to that in Table 2, suggesting that the *CEO UAI* effect is not confounded by omitted culturally transmitted attitudes toward thrift.

In addition to UAI, Hofstede (1984) uses three additional measures to characterize social challenges that different societies respond to differently. They are: societal views on inequality, as captured by Power Distance (PDI); the role of the individual relative to her primary group, as captured by Individualism (IDV); and gender differences, as captured by Masculinity (MAS). We also consider the two additional dimensions of national cultures that were introduced later (see, Hofstede et al. (2010)): the importance of tradition vs. adaptation, as captured by Long-term Orientation (LTO), and more or less restrained gratification, as captured by Indulgence (IVR). We follow the construction of UAI to construct corresponding CEO-specific measures for each of these five dimensions. All five dimensions are significantly correlated with *CEO UAI*, with correlation coefficients ranging between 53% for *CEO PDI* and -85% for *CEO IVR*. The results in Panel B of Table 4 reveal that these additional cultural dimensions largely do not matter for corporate acquisitions, once CEO UAI is included. What is more, the *CEO UAI* effect remains significant, suggesting that it is indeed the uncertainty avoidance dimension of a CEO's cultural heritage that is influential for risky corporate decisions such as acquisitions.

3.3. Measurement Error

We use CEOs' last names and the distribution of passengers with the same last name arriving in New York between 1820 and 1957 to identify the countries of origins associated with a given surname. Although our approach allows us to approximate the culturally inherited preferences for a large sample of U.S. CEOs, it is a noisy approximation. We therefore discuss several potential sources of noise in our *CEO UAI* measure and assess their impact on the baseline results reported in Table 2. We also consider an alternative data source to infer the origins associated with a given last name.

First, we rely on a distribution of possible origins for a last name to infer a person's true origin. While 47% of CEOs' last names have a dominant origin (i.e., an origin accounting for more than 50% of the passengers with that last name), the average (median) number of different origins per last names is 25 (20). In addition to the number of origins associated with a given person, the dispersion of the different UAI values entering a person's weighted average should also capture the difficulty of accurately identifying an individual's true risk preference. The average as well as median dispersion across origins associated with a given last name is 0.175. The results in columns (1) to (3) and columns (5) to (7) of Table 5, Panel A are consistent with an attenuation effect due to the measurement error. The effect of *CEO UAI* on acquisition is significantly stronger when the CEO's last name is associated with a smaller number of origins and when those origins have more similar UAI values. The effect is also stronger if the CEO's last name has a dominant origin, although the effect is not statistically significant.

Another source of noise is related to the limitations of the data we use to compute *CEO UAI*. First, on average we cannot identify the origin of 1.6% of the passengers arriving in New York (see *Fraction Unidentifiable* in Table 1 Panel B), but this fraction varies across last names. The CEO's UAI could be noisier for last names with a higher *Fraction Unidentifiable*. Second, some of the countries of origins listed in Appendix B are not covered by the Hofstede surveys and thus have missing UAI values. *CEO UAI* could be measured less precisely for last names with a larger *Fraction of Origins Missing UAI*. We thus construct a dummy variable, *Fewer Limitations*, that equals one if a last name is associated with values of *Fraction Unidentifiable* and *Fraction of Origins Missing UAI* both below their sample averages. Columns (4) and (8) of Table 5, Panel A suggest that the *CEO UAI* effect is stronger when there are fewer data limitations in the computation of *CEO UAI*.

Given that the noise in our measure does appear to attenuate the estimated effect of *CEO UAI*, our baseline results in Table 2 should be viewed as providing a lower bound for the effect of culturally transmitted preferences on corporate acquisition policies.

In addition to addressing specific sources of noise and imprecision in our passenger record based the UAI measure, we repeat our analysis from Table 2 with *CEO UAI (Dictionary),* which uses the *Dictionary of American Family Names* to determine the countries of origin associated with a last name. The results are reported in Panel B of Table 5. We again find that CEOs' culturally determined risk preferences are significantly and negatively associated with both the intensive and extensive margins of acquisitions. Interestingly, the effect of *CEO UAI (Dictionary)* is substantially smaller than the effect of *CEO UAI* based on the passenger list, even though the variability of both UAI measures is similar (see, Table 1, Panel B), suggesting that the information in the frequency weights inferred from the passenger data used in the construction of *CEO UAI* could be valuable.

3.4. Regression Standard Errors

Given the limited number of origins, our measure of risk preference is positively correlated across observations with overlapping origins. As is well known from the recent literature on clustered standard errors (e.g., Petersen (2009); Thompson (2011); Cameron and Miller (2013)), such within cluster (here, within origin) correlation of a regressor will affect standard errors, if regression errors are also correlated across observations within clusters.[16] To assess the magnitude of the potential bias, we repeat the regressions reported in Table 2, but cluster the standard errors by the largest origin associated with a given CEO's last name in additional to by firm. The results are reported in Panel A of Table 6. Clustering the standard errors additionally at the origin level increases the standard errors only slightly and does not change our inferences at all.

In an alternative attempt to assess the concern about understated standard errors, we collapse all observations to the country level. Specifically, we identify 47 unique countries of

[16] Cameron and Miller (2013, p. 8, equation 6) provide an approximate scaler for standard errors in case of correlation within clusters: $1 + \rho_e \, \rho_{UAI} \, (N_{cluster} - 1)$, where ρ_e is the average correlation of the regression residuals within a cluster, ρ_{UAI} is the correlation of UAI within a cluster, and $N_{cluster}$ is the number of observations in a cluster.

origin based on the largest origins associated with all CEOs in our sample. Next, for each of these 47 countries of origin, we compute the average acquisition propensity and acquisition rate, after removing year, industry, and state fixed effects from the outcome variables. For each country, we also compute the average *CEO UAI* and the averages of all control variables. We then rerun our baseline regression using just 47 country-level observations. The results are reported in Panel B of Table 6. *CEO UAI* continues to have a statistically significant effect on corporate acquisition decisions. Overall, the results in Table 6 suggest that the inference in our main analysis is not affected by potentially understated standard errors.

4. Alternative Explanations

In this Section, we address a number of alternative explanations for our findings that would not be based on the social transmission of preferences and attitudes. In particular, we examine differences in economic resources across countries of origin and genetic factors that could be correlated with cultural differences across countries of origins. We also address stereotyping in the CEO selection process as an alternative explanation for our main finding.

4.1. Quality of Institutions and Economic Development

National culture is not independent of the economic development and the quality of institutions of a country. In particular, economic resources and stable institutions likely decrease uncertainty and risk aversion. In cross-country studies of the effect of culture on economic outcomes, this lack of independence poses a significant challenge in identifying the effect of culture, as decisions are made in different economic and institutional environments. In contrast, our empirical design holds the economic and institutional environment constant, by focusing on corporate decisions made by CEOs of public firms in the U.S. Nevertheless, to rule out the concern that variation in *UAI* proxies for omitted differences in economic resources between CEOs of different ancestry, we collect country-level data from the World Development Indicator (WDI) database on GDP per capita, life expectancy, as well as secondary school enrollment in

1980, approximately the year of the Hofstede survey data. We also obtain the quality of institutions index from Bekaert, Harvey, Lundblad, and Siegel (2011). The index, which is higher for better institutions, reflects corruption, the strength and impartiality of the legal system, and bureaucratic quality.

For each CEO in our sample and for each of these country-level variables, we construct the corresponding weighted average across the origins associated with a CEO's last name as in the construction of *CEO UAI*. *Log(GDP) at Origin*, for example, is the natural logarithm of the weighted average GDP per capita, where the average is calculated using the same origin weights as in *CEO UAI*. Similarly, *Log(Life Expectancy) at Origin*, *Schooling at Origin*, and *Quality of Institutions at Origin* reflect the average life expectancy, the average fraction of those enrolled in secondary education institutions, and the average quality of institutions.

Column (1) of Table 7 reports results from a CEO-level regression of *CEO UAI* on all four economic and institutional proxies. The *adjusted R-squared* is 65%, suggesting a high correlation between *CEO UAI* and these economic and institutional proxies. In columns (2) and (4), we report our baseline specifications from Table 2 applied to the slightly smaller sample used here (due to a few countries missing data on economic development and institutional quality). In columns (3) and (5), we add the four economic and institutional variables. The effect of *CEO UAI* on corporate acquisition is essentially unchanged, despite of its significant correlation with these variables. Thus, the economic or institutional characteristics at the countries of origin do not seem to confound the *CEO UAI* effect on corporate acquisition decisions.

4.2. Genes

Similar to other studies of economics and culture that use data about immigrants and their descendants (see, Fernandez (2011) for a discussion), we have interpreted our findings as consistent with the cultural or social transmission of risk preferences. Evidence of vertical cultural transmission in the domain of economic preferences, such as risk and time preferences, is of particular interest, as several recent studies have found significant evidence for genetic

transmission of such preferences, but only limited support for vertical social transmission. The extent to which differences across countries in risk attitudes such as uncertainty avoidance reflect differences in the gene-frequencies is unknown at this point. On the one hand, evidence increasingly points to gene-culture co-evolution as well as to culture as a source of selection in human evolution (Laland et al. (2010)). On the other hand, about 95% of total genetic variability among humans occurs within populations and only 5% between populations (Rosenberg et al. (2002)). That is, while a precise distinction between cultural and genetic variation and transmission is likely impossible, we would like to investigate if and to what extent the effect of UAI is reduced when differences in gene frequencies across countries of origin are accounted for.

Ideally, we would like to know which genes determine risk attitudes, so that we could measure the corresponding allele frequencies across countries of origin. While a few candidate genes such as the dopamine receptor gene (DRD4 7-repeat allele) have been proposed (see, e.g., Dreber, Apicella, Eisenberg, Garcia, and Zamore, (2009); Kuhnen and Chiao (2009)), the understanding of the genetic structure shaping economic preferences is largely incomplete at this point. Instead, we employ a measure of genetic distance that measures genetic differences between two populations based on differences in allele frequencies (see, Cavalli-Sforza, Menozzi, and Piazza (1994) for the measure and Spolaore and Wacziarg (2009) for a recent application to economics). Genetic distance measure was designed to capture the length of time that two populations have been separated from one another, rather than to characterize differences with respect to specific genetic traits. However, evidence from population genetics suggests that the gene frequency patterns observed across populations for a large number of specific genes, including the dopamine receptor gene, largely reflect the divergence of populations, captured by genetic distance (Kidd, Pakstis, and Yun (2014)).

Specifically, we obtain genetic distance data for a set of global country pairs (*Genetic Distance (World)*) and for a smaller set of European country pairs (*Genetic Distance (Europe)*) from Spolaore and Wacziarg (2009). In order to assess whether the impact of *UAI* on corporate

acquisition decisions is related to genetic factors, we select all observations from our sample that are associated with CEOs with a dominant origin. We average all observations for each dominant origin and form pairs between all dominant origins. After combining these data at the country-pair level with the genetic distance data from Spolaore and Wacziarg (2009), we obtain 819 unique global pairs as well as 299 unique European pairs. For each pair, we calculate the absolute difference in the average country-level acquisition probabilities as well as in the country-level *UAI* values associated with each country in a pair. In untabulated results, we confirm that absolute differences between country-level UAI values are indeed significantly positively correlated with genetic distances between countries (Becker, Dohmen, Enke, and Falk (2014)).[17] We therefore test whether the pairwise difference in acquisition probabilities are related to pairwise differences in UAI when controlling for pairwise genetic distance.

Table 8 reports the results for the global sample as well as the European sample. In column (1), we provide the base line effect of the absolute difference in *UAI* on the absolute difference in acquisition probabilities, using the world sample. Column (2) shows that accounting for the genetic distance does not change the effect of absolute difference in *UAI* at all. Columns (3) and (4) repeat the analysis for the smaller European subset, for which genetic distance is more precisely measured (see, Spolaore and Wacziarg (2009)). Overall, we find little evidence that genetic distances can account for the effect of UAI on corporate acquisition decisions.[18]

4.3. Stereotyping in the CEO Selection

Our main finding that a CEO's cultural heritage with respect to uncertainty avoidance is correlated with risky corporate acquisition decisions could arise due to stereotyping in the firm's CEO selection process rather than due to culturally transmitted preferences on the part of the CEO. To see this, imagine a given firm is interested in appointing a CEO who is comfortable with uncertainty, for example, in order to grow the firm aggressively through a number of acquisitions.

[17] Becker, Dohmen, Enke, and Falk (2014) find that absolute differences in survey-based risk preferences across countries are significantly related to the genetic distance between countries.
[18] In untabulated results, we find qualitatively similar results for the acquisition rate.

After an initial screening of potential candidates, the firm might be left with a short list of candidates who in terms of their true preferences are equally comfortable with uncertainty and risk, but differ with respect to their cultural heritage. The firm might select a candidate from a low UAI culture, even though cultural heritage would have no predictive power for the risk preferences of the candidates on the short list. Such a decision based on stereotyping could occur for a number of reasons. For example, the candidates' true risk preferences might not be fully observable, and the firm indeed believes that cultural heritage predicts risk-taking behavior. Similarly, the stereotype associated with a candidate's cultural heritage might simply facilitate decision making. Alternatively, the firm could rely on stereotypes to signal the CEO's risk attitude to outside stakeholders who cannot observe the true risk preferences of the candidates.

As in our empirical approach, such stereotyping based on cultural heritage by the firm selecting the CEO might rely on the CEO's last name, especially among CEOs of European descent for whom other easily observable characteristics, such as appearance, are likely not very informative about the person's cultural heritage. Assuming that the CEO's last name is typically identical to his father's last name, while the CEO's mother's maiden name is not easily observed,[19] we can assess the validity of the stereotyping argument by examining whether the CEO's UAI based on the cultural heritage inferred from his mother's maiden name matters for corporate acquisition beyond the UAI based on his last name. That is, if risk preferences are indeed shaped by cultural heritage at least partially through vertical transmission of risk attitudes from parents to their children, we expect both the UAI based on the father's last name and that based on the mother's maiden name to affect our outcome variables. However, if CEO selection reflects stereotyping based on the cultural heritage associated with the CEO's last name, then we do not expect the UAI based on the CEO's mother's maiden name to affect our outcome variables. Of course, there can be many other reasons for which the UAI based on the CEO's mother's

[19] As a matter of fact, a person's mother's maiden name is often suggested as password or security question.

maiden name has no effect. For examples, mothers might not influence the risk attitudes of their sons in the same way as fathers do.

To implement this test, we search for CEOs' mothers' maiden names using data from Marquis Who's Who, online obituaries, and from Duchin, Simutin, and Sosyura (2015).[20] The data collection is still ongoing and so far has resulted in a sample of 281 CEOs with known mother's maiden name in 272 firms, representing 2,313 firm-year observations. We follow the same approach as for the CEO's last name to infer UAI associated with the mother's maiden name, and label it *CEO UAI (Mother)*. The panel-wide correlation between the *CEO UAI and CEO UAI (Mother)* is 0.44, consistent with assortative mating along cultural origins. Indeed, the largest origin associated with the CEO's last name and that of the mother's maiden name coincide in 34% of the cases.

In columns (1) and (4) of Table 9, we first replicate our baseline specification estimated on the smaller sample of CEOs with non-missing *CEO UAI (Mother)*. In columns (2) and (5), we use *CEO UAI (Mother)* instead. The findings are mixed. In case of *Acquisition*, we observe a small, negative, and statistically insignificant effect, while for *Acquisition Rate* the effect of *CEO UAI (Mother)* is negative, large in absolute terms, and highly statistically significant. Of course, such an effect could come from the positive correlation between *CEO UAI (Mother) and CEO UAI*, which is omitted from the current specification. In columns (3) and (6), we therefore include both *CEO UAI* and *CEO UAI (Mother).* The results for *Acquisition* remain uninformative, while the results for *Acquisition Rate* are inconsistent with the stereotyping argument as outlined above. In particular, we find that when the culturally transmitted risk preferences from the father's and mother's side diverge, it is the mother's UAI that has a negative and statistically significant effect, while the CEO UAI based on the father's cultural heritage has a negative yet statistically

[20] We thank Denis Sosyura, Ran Duchin, and Mikhail Simutin for sharing mother's maiden names for some of the CEOs in our sample with us.

insignificant effect. While preliminary, we interpret these findings as likely inconsistent with the stereotyping hypothesis.

5. Aspects of Cultural Transmission

So far, we have provided evidence of cultural transmission of preferences with respect to risk and uncertainty, controlling for economic and institutional effects, genetic differences, as well as stereotyping. In this section, we study different aspects of the cultural transmission process. First, we examine the persistence of cultural heritage and the process of assimilation. Second, we study to which extent cultural transmission operates through the broader religious traditions associated with cultural heritage as opposed to the specific national cultures that we have used to construct our measure of culturally transmitted risk preferences.

5.1. Persistence and Assimilation

In this subsection, we examine how environment and time impact the strength of cultural transmission. We use variation across CEOs and their last names with respect to the environment the CEO likely grew up in and the length of time their families have been in the U.S.

We begin by exploiting differences across individual CEOs. First, we distinguish between CEOs that are first-generation immigrants and those that were born in the U.S. First-generation immigrants are likely more influenced by their cultural roots, as they experience the culture of their origin in all aspects of life, not just through family life. Furthermore, comparing the *UAI* effect between first-generation CEOs and U.S.-born CEOs is informative about the speed of assimilation. Finally, finding a significant *CEO UAI* effect for those born in the U.S. would rule out the possibility that our results are driven by first-generation CEOs.

For about 60% of the CEOs in our sample, we are able to identify their birthplace using data from Capital IQ, Marquis Who's Who, and from Bernile, Bhagwat, and Rau (2014). About 8% of the CEOs with birthplace information are first-generation immigrants. Columns (1) and (3) of Table 10, Panel A report the results for *Acquisition* and *Acquisition Rate* respectively. In both

cases, the effect of CEO's *UAI* for those born in the U.S. are negative, significant, and of similar magnitude as in Table 2. Our main findings are therefore not due to first-generation CEOs. The *CEO UAI* effect is stronger for first-generation CEOs, as indicated by the negative interaction effect between *First Generation* and *CEO UAI*, although it is statistically significant only for *Acquisition Rate*. These results suggest an important effect of the environment the CEO grew up in on the strength of cultural transmission of preferences. They also suggest a persistence effect of cultural heritage, at least with respect to risk preferences.

Second, the cultural origin associated with a person's first name might also be informative about the length of time a family has been in the U.S. or about the rearing environment. This could be the case if first-generation immigrants relative to higher-generation immigrants in the U.S. are more likely to have first names that reflect their country of origin or to give their children such names. It could also be that parents who are more concerned with preserving cultural heritage are more likely to give their children names associated with their cultural heritage. We thus hypothesize that the *CEO UAI* effect is stronger for CEOs whose first and last names are associated with the same country of origin. For 47% of the CEOs in our sample, we are able to collect origins associated with their first names. We create an indicator variable "*Same origin (First and Last Name)"* that equals one if the country of origin associated with the first name and the largest country of origin associated with the CEO's last name are the same, and zero otherwise. The results in columns (2) and (4) are indeed consistent with our conjecture.

Our next set of tests rely on variation in the passenger records associated with a CEO's last name. Some last names have existed in the U.S. for a longer period of time than others, which means that CEOs with those last names are more likely to be higher-generation immigrants than others and are more subject to the force of cultural assimilation in the U.S. We use two unique features of the passenger records to measure a last name's length of history in the U.S. First, we utilize the information in the arrival dates of passengers. For each last name, we compute the

mode of the arrival years of all passengers with that last name. We identify last names that arrived relatively earlier than others using an indicator variable "*Early Arrival*", which equals one for last names with the mode of the arrival years before 1900 and zero otherwise. The results in columns (1) and (3) of Table 10, Panel B reveal weaker, by about a third, *CEO UAI* effects for CEOs with last names associated with earlier arrival dates, even though the effect is only statistically significant for *Acquisition*. However, even for those with *Early Arrival*, the *CEO UAI* effect is still statistically significant (with *p*-values of 0.1% and 2.0% for *Acquisition and Acquisition Rate*, respectively).

Second, we use the fraction of passengers with a given last name who were already U.S. citizens between 1820 and 1957 (*Fraction U.S. Citizens*) as a proxy for the length of time a last name has existed in the U.S. The larger this fraction, the longer a last name has possibly existed in the U.S. We thus expect the effect of *CEO UAI* to be stronger for CEOs whose last names are associated with a lower *Fraction U.S. Citizens*. The results are reported in columns (2) and (4). For both acquisition outcomes, the interaction effect of *Fraction U.S. Citizens* and *UAI* is positive, although it is statistically significant only in the case of *Acquisition*. The longer a CEO's ancestors have possibly lived in the U.S., as captured by a larger *Fraction U.S. Citizens*, the weaker the effect of the CEO's culturally transmitted risk preference on corporate acquisitions. Again, the results are consistent with persistence of cultural heritage as well as gradual assimilation over time. In addition, these cross-sectional differences related to the arrival time of a given last name appear at odds with the stereotyping hypothesis discussed in the previous section, as these differences would typically not be known to those involved in the CEO selection process.

Overall, the results in Table 10 suggest that cultural differences with respect to risk preference persist over multiple generations. At the same time, there is evidence consistent with gradual cultural assimilation among U.S. CEOs, and the extent of exposure to cultural roots

matters. Our findings thus add to those by Giavazzi et al. (2014) who document convergence on a number of other culturally inherited attitudes.

5.2. Religion vs. National Culture

Religion can be understood as a particular subset of cultural beliefs and norms that relate to humans' role in the universe and provide answers to transcendental questions. Religions typically also provide their followers with a moral code that can influence economic behaviors such as risk taking or thrift. Existing empirical evidence has indeed revealed differences in attitudes towards risk-taking and speculation across different religious groups, in particular between Protestants and Catholics (see, e.g., Barsky et al. 1997, Kumar (2009), Benjamin, Choi, and Fisher (2015)).[21] In most cases, national cultures are associated with a few religions and often just one religion. At the same time, the number of religions in the world is relatively small, such that a given religion is typically associated with multiple national cultures. By controlling for religious views associated with a CEO's cultural heritage, we therefore examine the extent to which the cultural transmission of risk attitudes occurs through broader culturally transmitted religious views as opposed to specific national cultures.

We infer the religious views associated with a CEO's cultural heritage by identifying the religious denomination with the largest followers in the largest country of origin associated with the CEO's last name. The largest religious group for each country is determined using data from the World Value Survey (WVS) and European Value Survey (EVS) collected between 1999 and 2004. [22] Each CEO is thus associated with one out of seven religious views (ordered by frequency, reported in parentheses, in our sample of CEO-firm-years): Christian: Protestant (72.6%), Christian: Roman Catholic (19.7%), Judaism (5.7%), Christian: Orthodox (1.5%), Islam (0.2%),

[21] While Weber (1930) points to a strong work ethic and an appreciation of thriftiness among Protestants, empirical studies have found only limited evidence consistent with these predictions (see, e.g., Guiso, Sapienza, and Zingales (2003), and Becker and Woessmann (2009)). Note that a related literature has examined the effect of religiosity on risk taking behavior, documenting a positive relationship between religiosity and risk aversion at the individual level (Miller and Hoffmann (1995)) as well as in corporate settings (Hilary and Hui (2009)).

[22] The largest religion in a country on average accounts for 69% of the population.

Hinduism (0.2%), and Buddhism (0.1%). We confirm that uncertainty avoidance differs across these religious views. In untabulated results, we regress *CEO UAI* on the seven religious indicators and find that religion explains about 36% of the variation in *UAI*.[23]

The results in Table 11 reveal to which extent the *CEO UAI* effect operates through the religious denomination a CEO likely belongs to given the CEO's country of origin. Comparing the *CEO UAI* effect in a specification without religion fixed effects (columns (1) and (3)) to that in a specification including religion fixed effects (columns (2) and (4)),[24] we observe a reduction of the *UAI* effect between 15 and 17%. These results suggest that only a relatively small part of the social transmission of uncertainty preferences occurs through religious heritage, and the bulk part of the transmission occurs through national culture, independently of religion.

6. Concluding Remarks

Economic preferences with respect to time and risk play an important role in our understanding of how individuals make savings and investment decisions. Recent research has examined the origins and thereby the stability and evolution of these preferences. While compelling evidence exists with respect to the biological basis as well as the influences of life events, researchers have struggled providing robust evidence on cultural origins of risk and time preferences. In this paper, we attempt to fill this gap. In particular, we examine how culturally transmitted risk preferences of CEOs of large, public U.S. firms affect corporate acquisitions, often large and risky investments with uncertain outcomes.

We identify each CEO's heritage in terms of national culture using immigration records of passengers arriving in New York during 1820-1957 with the same last name as the CEO's. We

[23] The explained variation is similar to country-level evidence reported by Baxamusa and Jalal (2015). These authors examine corporate policies, such as leverage and R&D investment, but not acquisition, of firms with Catholic vs. Protestant CEOs.

[24] The number of observations used in Table 11 is smaller than the number of observations in Table 2, as we include only CEOs whose last names have a well-identified largest origin that we use to assign a religious heritage.

measure a CEO's culturally determined risk preferences by forming the weighted average of Hofstede's uncertainty avoidance index (UAI) across all countries of origins associated with the CEO's last name. We document a significant association between CEOs' culturally determined risk preferences and corporate acquisition decisions. A one standard deviation increase in a CEO's uncertainty avoidance is associated with a 16% reduction of the acquisition propensity and a 17% reduction of the relative acquisition size. These magnitudes are similar to those recently documented by other studies of the effect of CEO characteristics on corporate investments.

We investigate several alternative explanations, including economic and genetic differences across CEOs' countries of origins as well as stereotyping in the CEO selection process. However, our main conclusion remains: U.S. CEOs' willingness to take risk, as revealed through corporate decisions, partly reflects risk and uncertainty preferences associated with their cultural heritage and socially transmitted over possibly multiple generations.

Indeed, the effect obtains, even though in a weaker form, for CEOs whose families, proxied for by their last names, have likely arrived in the U.S. before 1900. That is, culturally transmitted risk preferences seem to be quite persistent, but are subject to a gradual assimilation process.

Overall, our results are consistent with the social transmission of risk preferences as well as the impact of culture, in particular in form of culturally shared attitudes to risk and uncertainty, on economic outcomes.

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Table 1: Summary Statistics

Panel A: Distribution of Origins

This table reports the ten most common countries of origin as well as the average fraction of passengers of a given last name that report U.S. as their nationality and the average fraction of non-missing but uninformative origins ("Unidentifiable") for 18,551 CEOs.

Origin	Probability
England	16.54%
Germany	13.71%
Italy	9.57%
Ireland	6.09%
Jewish	4.45%
France	2.70%
Scotland	2.26%
Poland	2.06%
Russia	1.91%
Netherlands	1.83%
USA	17.77%
Unidentifiable	1.68%

Panel B: CEO Risk and Time Preferences and Other Characteristics

This table reports summary statistics for variables related to CEOs' culturally transmitted risk and time preferences as well as other CEO characteristics.

Variables by CEO	Obs.	Mean	Std. Dev.
CEO UAI (Passenger Records)	13,533	0.468	0.161
CEO UAI (Dictionary)	12,807	0.458	0.180
CEO UAI (Mother)	282	0.443	0.158
CEO Thrift (Passenger Records)	13,533	0.320	0.053
CEO PDI (Passenger Records)	13,533	0.377	0.101
CEO IDV (Passenger Records)	13,533	0.809	0.135
CEO MAS (Passenger Records)	13,533	0.546	0.104
CEO LTO (Passenger Records)	13,531	0.533	0.127
CEO IVR (Passenger Records)	13,493	0.554	0.139
CEO Education	13,533	0.884	0.969
Missing Edu. (Indicator)	13,533	0.488	0.500
Missing Age (Indicator)	13,533	0.270	0.444
Female (Indicator)	13,533	0.024	0.152
First Generation (Indicator)	13,533	0.048	0.213
Missing First Generation	13,533	0.396	0.489
Same Origin (First and Last Names)	13,533	0.124	0.329
Missing First Name Origin (Indicator)	13,533	0.527	0.499
Fraction US Citizens	13,533	0.189	0.162

Early Arrival	13,533	0.579	0.494
# of Origins	13,533	25.00	19.00
Dispersion in UAI (Passenger Records)	13,533	0.175	0.083
Dominant Origin (Indicator)	13,533	0.473	0.499
Fraction Unidentifiable	13,533	0.016	0.027
Fraction of Origin Missing UAI	13,533	0.024	0.064
Fewer Limitations	13,533	0.543	0.498
Log(GDP) at Origin	13,428	8.986	0.447
Log(Life Expectancy) at Origin	13,515	4.262	0.114
Schooling at Origin	13,286	0.659	0.221
Quality of Institutions at Origin	13,368	0.788	0.172

Panel C: Firm Level Variables

This table reports summary statistics for firm-year level financial variables, as well as variables for the acquisition sample.

Variables by Firm-Year	Obs.	Mean	Std. Dev.
Acquisition (Indicator)	71,175	0.15	0.357
Acquisition Rate (%)	71,175	2.589	10.886
Stock Acquisition (Indicator)	7,922	0.396	0.489
Log(MB)	71,175	0.723	0.875
ROA (%)	71,175	7.233	24.056
Log(Sales)	71,175	5.336	2.423
Cash Rate	69,435	11.616	14.978
Variables by Acquisition			
Acquirer-Target Cash Flow Correlation	1,306	0.407	0.353
UAI (Acquirer CEO)	3,114	0.458	0.156
UAI (Target CEO)	3,114	0.455	0.158

Panel D: Correlation Table

This table reports the correlation between CEO's *UAI* with CEO characteristics and (lagged) firm characteristics. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively. The correlation with age (education) are calculated for the sample of 9,882 CEOs (6,930 CEOs) with non-missing age (education) information.

	Correlation with UAI	Level of Observations
CEO Age when first appearing in sample	-0.021**	CEO
Missing Age	-0.002	CEO
CEO Education	0.047***	CEO
Missing Edu.	-0.008	CEO
Female	-0.015*	CEO
Log(MB)	-0.001	Firm-Year
ROA	-0.030***	Firm-Year
Log(Sales)	-0.061***	Firm-Year

Table 2: Culturally Transmitted Risk Preferences and Corporate Acquisition

This table reports the effect of CEOs' *UAI* on corporate acquisitiveness and acquisition rate. Firm-year level control variables (*Log(MB*), *ROA*, and *Log(Sales)*) are lagged. Definitions of all variables are provided in Appendix C. Standard errors are clustered at the firm level. All regressions include a constant term and year fixed effects. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	Acquisition			Acquisition Rate		
CEO UAI	-0.157***	-0.146***	-0.154***	-2.596***	-2.793***	-2.815***
	(0.012)	(0.012)	(0.024)	(0.331)	(0.331)	(0.601)
CEO Age	-0.001***	-0.001***	-0.001	-0.062***	-0.052***	-0.026**
	(0.000)	(0.000)	(0.000)	(0.009)	(0.009)	(0.013)
Missing Age	-0.085***	-0.076***	-0.040	-3.855***	-3.155***	-1.297
	(0.019)	(0.018)	(0.028)	(0.554)	(0.543)	(0.807)
CEO Education	0.003	0.006	0.016*	-0.139	-0.116	0.108
	(0.005)	(0.005)	(0.008)	(0.133)	(0.133)	(0.214)
Missing Edu.	-0.008	0.000	0.037**	-0.429	-0.219	0.171
	(0.011)	(0.010)	(0.017)	(0.285)	(0.283)	(0.447)
Female	-0.034***	-0.028**	-0.022	-0.652**	-0.575**	-0.394
	(0.012)	(0.012)	(0.018)	(0.291)	(0.290)	(0.511)
Log(MB)	0.026***	0.025***	0.029***	1.136***	0.963***	1.281***
	(0.002)	(0.002)	(0.003)	(0.068)	(0.068)	(0.108)
ROA	0.000***	0.000***	0.001***	0.038***	0.034***	0.042***
	(0.000)	(0.000)	(0.000)	(0.003)	(0.003)	(0.006)
Log(Sales)	0.021***	0.026***	-0.013***	-0.323***	-0.266***	-1.817***
	(0.001)	(0.001)	(0.003)	(0.026)	(0.028)	(0.148)
Year FE	x	x	x	x	x	x
Ind, State FE		x			x	
Firm FE			x			x
Obs.	71,109	71,109	71,109	71,109	71,109	71,109
Adj. R^2	0.041	0.057	0.192	0.024	0.033	0.141

Table 3: Selection of Target and Payment Method

This table reports the effect of acquiring CEOs' *UAI* on Acquirer-Target Cash Flow Correlation, target CEO's *UAI*, and an indicator variable for stock payment. Firm-year level control variables (*Log(MB*), *ROA*, *Log(Sales), and Cash Rate*) are lagged. Definitions of all variables are provided in Appendix C. Standard errors are clustered at the firm level. All regressions include a constant term and year fixed effects. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

	(1) Acquirer-Target Cash Flow Correlation	(2) CEO UAI (Target)	(3) Stock Acquisition
CEO UAI			
(Acquirer)	-0.110*	0.303***	0.116***
	(0.066)	(0.029)	(0.041)
CEO Age	0.001	0.000	-0.003***
	(0.001)	(0.000)	(0.001)
Missing Age	0.046	0.025	-0.159***
	(0.089)	(0.028)	(0.052)
CEO Education	-0.030	0.003	-0.005
	(0.024)	(0.007)	(0.014)
Missing Edu.	-0.080*	-0.008	-0.021
	(0.047)	(0.014)	(0.029)
Female	-0.150**	0.018	-0.011
	(0.069)	(0.026)	(0.040)
Log(MB)	0.021	0.001	0.048***
	(0.018)	(0.005)	(0.009)
ROA	0.003***	0.000	-0.001***
	(0.001)	(0.000)	(0.000)
Log(Sales)	0.032***	0.000	-0.040***
	(0.006)	(0.002)	(0.004)
Cash Rate			0.001***
			(0.001)
Year, Ind, State FE	x	x	x
Obs.	1,306	3,114	7,750
Adj. R^2	0.167	0.109	0.135

Table 4: Time Preferences and Other Dimensions of National Culture

In this table, we report the effect of *CEO UAI* on corporate acquisitions, controlling for *Thrift* (Panel A), and other Hofstede dimensions (Panel B). Definitions of all variables are in provided Appendix C. Standard errors are clustered at the firm level. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

Panel A: Time vs. Risk Preferences

	(1)	(2)	(3)	(4)
	Acquisition		Acquisition Rate	
CEO UAI		-0.148***		-2.737***
		(0.013)		(0.364)
CEO Thrift	-0.167***	0.015	-3.767***	-0.408
	(0.038)	(0.039)	(0.963)	(1.048)
CEO Age	-0.001***	-0.001***	-0.052***	-0.052***
	(0.000)	(0.000)	(0.009)	(0.009)
Missing Age	-0.076***	-0.075***	-3.168***	-3.157***
	(0.019)	(0.018)	(0.545)	(0.543)
CEO Education	0.006	0.006	-0.116	-0.114
	(0.005)	(0.005)	(0.133)	(0.133)
Missing Edu.	-0.001	0.000	-0.246	-0.216
	(0.010)	(0.010)	(0.284)	(0.283)
Female	-0.025**	-0.028**	-0.527*	-0.573**
	(0.012)	(0.012)	(0.293)	(0.290)
Log(MB)	0.026***	0.025***	0.971***	0.963***
	(0.002)	(0.002)	(0.068)	(0.068)
ROA	0.000***	0.000***	0.034***	0.034***
	(0.000)	(0.000)	(0.003)	(0.003)
Log(Sales)	0.026***	0.026***	-0.257***	-0.267***
	(0.001)	(0.001)	(0.028)	(0.028)
Year, Ind, State FE	x	x	x	x
Obs.	71,109	71,109	71,109	71,109
Adj. R^2	0.053	0.057	0.032	0.033

Panel B: Other Hofstede Dimensions

	(1)	(2)	(3)	(4)
	Acquisition		Acquisition Rate	
CEO UAI		-0.099***		-1.722***
		(0.022)		(0.617)
CEO PDI	-0.029	-0.026	-1.215*	-1.157*
	(0.025)	(0.025)	(0.635)	(0.634)
CEO IDV	0.017	0.004	0.738	0.513
	(0.024)	(0.024)	(0.669)	(0.672)
CEO MAS	0.048**	0.031	0.698	0.404
	(0.022)	(0.022)	(0.566)	(0.567)
CEO LTO	0.009	0.007	0.183	0.153
	(0.020)	(0.020)	(0.517)	(0.515)
CEO IND	0.131***	0.044	1.939***	0.436
	(0.027)	(0.033)	(0.744)	(0.857)
CEO Age	-0.001***	-0.001***	-0.054***	-0.053***
	(0.000)	(0.000)	(0.009)	(0.009)
Missing Age	-0.079***	-0.078***	-3.264***	-3.238***
	(0.019)	(0.019)	(0.547)	(0.547)
CEO Education	0.007	0.006	-0.092	-0.102
	(0.005)	(0.005)	(0.133)	(0.133)
Missing Edu.	0.002	0.001	-0.192	-0.197
	(0.010)	(0.010)	(0.283)	(0.283)
Female	-0.027**	-0.028**	-0.557*	-0.566*
	(0.012)	(0.012)	(0.291)	(0.290)
Log(MB)	0.025***	0.025***	0.967***	0.966***
	(0.002)	(0.002)	(0.068)	(0.068)
ROA	0.000***	0.000***	0.034***	0.034***
	(0.000)	(0.000)	(0.003)	(0.003)
Log(Sales)	0.026***	0.026***	-0.269***	-0.270***
	(0.001)	(0.001)	(0.029)	(0.029)
Year, Ind, State FE	x	x	x	x
Observations	70,901	70,901	70,901	70,901
Adjusted R-squared	0.056	0.057	0.033	0.033

Table 5: Measuring UAI

Panel A: Noise and Imprecision in Measuring UAI

This table reports the impact of noise and imprecision in measuring *UAI* on corporate acquisitiveness (Columns 1 - 4) and acquisition rate (Columns 5 - 8). Firm-year level control variables (*Log(MB), ROA*, and *Log(Sales)*) are lagged, and both CEO- and firm-level control variables are unreported for brevity. Definitions of all variables are provided in Appendix C. Standard errors are clustered at the firm level. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Acquisition				Acquisition Rate			
CEO UAI	-0.220***	-0.131***	-0.124***	-0.083***	-4.025***	-2.602***	-2.611***	-1.827***
	(0.017)	(0.024)	(0.019)	(0.021)	(0.453)	(0.616)	(0.520)	(0.571)
UAI x (# of Origins)	0.006***				0.118***			
	(0.001)				(0.021)			
# of Origins	-0.002***				-0.025***			
	(0.000)				(0.009)			
UAI x (Dispersion in UAI)		0.413***				8.115**		
		(0.136)				(3.597)		
Dispersion in UAI		0.067				1.003		
		(0.073)				(1.919)		
UAI x (Dominant Origin)			-0.032				-0.232	
			(0.024)				(0.659)	
Dominant Origin			-0.001				-0.132	
			(0.012)				(0.335)	
UAI x (Fewer Limitations)				-0.076***				-1.339*
				(0.026)				(0.706)
Fewer Limitations				0.015				0.422
				(0.013)				(0.353)
Controls	x	x	x	x	x	x	x	x
Year, Ind, State FE	x	x	x	x	x	x	x	x
Obs.	71,109	71,109	71,109	71,109	71,109	71,109	71,109	71,109
Adj. R^2	0.063	0.059	0.057	0.058	0.036	0.034	0.033	0.033

Panel B: Measuring UAI with Dictionary Data

This table reports the effect of CEO's *UAI* derived based on Dictionary data on corporate acquisitions. Definitions of all variables are provided in Appendix C. Standard errors are clustered at the firm level. All regressions include the controls from Table 2, a constant term, and year fixed effects. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	Acquisition			Acquisition Rate		
UAI (Dictionary)	-0.084***	-0.075***	-0.098***	-1.318***	-1.444***	-2.084***
	(0.012)	(0.012)	(0.023)	(0.323)	(0.321)	(0.563)
Control Variables	x	x	x	x	x	x
Year FE	x	x	x	x	x	x
Ind, State FE		x			x	
Firm FE			x			x
Obs.	67,180	67,180	67,180	67,180	67,180	67,180
Adj. R^2	0.039	0.057	0.190	0.024	0.034	0.142

Table 6: Standard Errors

Panel A: Cluster by Origin

Panel A of this table reports the effect of CEOs' *UAI* on corporate acquisitions. Definitions of all variables are provided in Appendix C. All CEOs with one identifiable largest origin are included in this analysis. Standard errors are clustered at the firm level in Columns (1) and (3), while at the firm and (largest) origin level in Columns (2) and (4). All regressions include controls from Table 2, a constant term, and year fixed effects. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)
		Acquisition		Acquisition Rate
CEO UAI	-0.144***	-0.144***	-2.737***	-2.737***
	(0.013)	(0.016)	(0.337)	(0.381)
CEO Age	-0.001***	-0.001***	-0.052***	-0.052***
	(0.000)	(0.000)	(0.009)	(0.011)
Missing Age	-0.077***	-0.077***	-3.146***	-3.146***
	(0.019)	(0.016)	(0.553)	(0.628)
CEO Education	0.006	0.006***	-0.129	-0.129
	(0.005)	(0.002)	(0.135)	(0.086)
Missing Edu.	-0.000	-0.000	-0.287	-0.287
	(0.010)	(0.006)	(0.287)	(0.213)
Female	-0.029**	-0.029**	-0.577*	-0.577**
	(0.012)	(0.015)	(0.296)	(0.280)
Log(MB)	0.025***	0.025***	0.970***	0.970***
	(0.002)	(0.002)	(0.069)	(0.092)
ROA	0.000***	0.000**	0.035***	0.035***
	(0.000)	(0.000)	(0.003)	(0.004)
Log(Sales)	0.026***	0.026***	-0.271***	-0.271***
	(0.001)	(0.002)	(0.029)	(0.040)
Year, Ind, State FE	x	x	x	x
Cluster by firm	x	x	x	x
Cluster by origin		x		x
Obs.	69,677	69,677	69,677	69,677
Adj. R^2	0.057	0.057	0.034	0.034

Panel B: Country Level Analysis

In this table, we conduct an analysis at the level of the country of origin. We first regression *Acquisition* and *Acquisition Rate* on year, state, and industry fixed effects. Next, we compute the average of the regression residuals by CEO's largest origin (by frequency of NY passenger records with his last name) as the dependent variables. We also calculate the independent variables (*CEO UAI*, CEO- and firm-level control variables) as the averages by origins. We then regress the (residual) acquisition variables on CEO UAI as well as control variables, which are all aggregated at the origin level. All regressions include a constant term. Definitions of all variables are provided in Appendix C. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)
	Acquisition		Acquisition Rate	
CEO UAI	-0.112***	-0.088**	-2.367***	-2.441***
	(0.034)	(0.033)	(0.706)	(0.719)
CEO Age		0.005		0.146*
		(0.007)		(0.084)
Missing Age		0.182		4.661
		(0.374)		(4.592)
CEO Education		0.083**		-0.046
		(0.036)		(0.641)
Missing Edu.		0.101		1.500
		(0.064)		(1.381)
Female		-0.171		1.240
		(0.144)		(2.326)
Log(MB)		-0.007		0.036
		(0.036)		(0.509)
ROA		-0.003***		0.004
		(0.001)		(0.014)
Log(Sales)		0.044***		0.106
		(0.008)		(0.112)
Constant	0.014	-0.558	0.243	-7.911
	(0.026)	(0.369)	(0.440)	(5.466)
Obs.	47	47	47	47
Adj. R^2	0.062	0.386	0.134	0.316

Table 7: Risk Preferences versus Economic Development and Quality of Institutions

In Column (1), we report the correlation between CEO's *UAI* with various economic and institutional variables of countries of origin. The observations are at the CEO level. In Columns (3) and (5), we control for the economic development and the quality of institutions of the countries of origins. *Log(GDP) at Origin* is the logarithm of the origin-probability-weighted average 1980 GDP per capital for each CEO. *Log(Life Expectancy) at Origin* is the logarithm of the origin-probability-weighted average 1980 life expectancy for each CEO. *Schooling at Origin* is the origin-probability-weighted average fraction of population with secondary school education in 1980 for each CEO. *Quality of Institution at Origin* is the origin-probability-weighted average quality of institution's index in 1980 for each CEO. Definitions of all variables are in provided Appendix C. Standard errors are clustered at the firm level in Columns (2) to (5). ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)
	CEO UAI	Acquisition		Acquisition Rate	
CEO UAI		-0.129***	-0.149***	-2.542***	-2.681***
		(0.013)	(0.021)	(0.346)	(0.539)
Log(GDP) at Origin	0.158***		0.009		0.237
	(0.006)		(0.008)		(0.200)
Log(Life Expectancy) at Origin	0.578***		0.051**		0.920*
	(0.031)		(0.022)		(0.513)
Schooling at Origin	-0.186***		-0.035***		-0.569**
	(0.005)		(0.011)		(0.286)
Quality of Institution at Origin	-0.916***		0.000		0.218
	(0.019)		(0.028)		(0.691)
CEO Age		-0.001***	-0.001***	-0.051***	-0.052***
		(0.000)	(0.000)	(0.009)	(0.009)
Missing Age		-0.076***	-0.077***	-3.119***	-3.134***
		(0.019)	(0.019)	(0.556)	(0.557)
CEO Education		0.007	0.008	-0.088	-0.071
		(0.005)	(0.005)	(0.136)	(0.136)
Missing Edu.		0.003	0.004	-0.188	-0.169
		(0.010)	(0.010)	(0.290)	(0.289)
Female		-0.028**	-0.028**	-0.598**	-0.606**
		(0.012)	(0.012)	(0.298)	(0.297)
Log(MB)		0.026***	0.026***	0.984***	0.985***
		(0.002)	(0.002)	(0.070)	(0.070)
ROA		0.000**	0.000**	0.035***	0.035***
		(0.000)	(0.000)	(0.003)	(0.003)
Log(Sales)		0.026***	0.026***	-0.273***	-0.276***
		(0.001)	(0.001)	(0.029)	(0.029)
Year, Ind, State FE		x	x	x	x
Obs.	13,187	69,289	69,289	69,289	69,289
Adj. R^2	0.645	0.057	0.057	0.033	0.033

Table 8: Genetic versus Cultural Transmission

In this table, we conduct an analysis at the origin country-pair level. For this analysis, we select 8,830 CEOs with a dominant origin. We aggregate all acquisitions across all observations of CEOs with the same dominant country of origin. We then form country-pairs and calculate the absolute difference between the average acquisition probabilities of the two countries in a pair (|*Difference in Acquisition*|). |*Difference in UAI*| is the absolute difference between the UAI of the countries in a country pair. Genetic Distance measures the genetic difference between two populations (Cavalli-Sforza, Menozzi, and Piazza (1994)). We obtain genetic distance data for a global set of country pairs (*Genetic Distance (World)*) and for a smaller set of European country pairs (*Genetic Distance (Europe)*) from Spolaore and Wacziarg (2009). All regressions include a constant term. Definitions of all variables are provided in Appendix C. Standard errors are double clustered by each country in a pair. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)
		|Difference in Acquisition|		
|Difference in UAI|	0.046**	0.046**	0.049*	0.045*
	(0.020)	(0.020)	(0.028)	(0.024)
Genetic Distance (World)		-0.007		
		(0.006)		
Genetic Distance (Europe)				0.045
				(0.054)
Obs.	819	819	299	299
Adj. R^2	0.026	0.027	0.030	0.030

Table 9: UAI Based on Mother's Maiden Name

In this table, we conduct an analysis on the effect of UAI based on CEO's mother's maiden name (*CEO UAI (Mother)*) on corporate acquisitions. Definitions of all variables are in provided Appendix C. Standard errors are clustered at the firm level. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	Acquisition			Acquisition Rate		
CEO UAI	-0.296***		-0.314***	-2.843*		-1.751
	(0.095)		(0.107)	(1.458)		(1.584)
CEO UAI (Mother)		-0.062	0.048		-3.410***	-2.800**
		(0.090)	(0.100)		(1.258)	(1.378)
CEO Age	-0.001	-0.002	-0.001	-0.104**	-0.108**	-0.107**
	(0.003)	(0.003)	(0.003)	(0.045)	(0.046)	(0.046)
Missing Age	-0.151	-0.158	-0.148	-6.778**	-7.052**	-6.996**
	(0.165)	(0.170)	(0.164)	(3.000)	(3.054)	(3.016)
CEO Education	-0.000	-0.005	-0.000	-0.139	-0.145	-0.119
	(0.032)	(0.033)	(0.032)	(0.634)	(0.633)	(0.632)
Missing Edu.	0.002	-0.008	0.001	0.013	-0.012	0.040
	(0.074)	(0.076)	(0.074)	(1.464)	(1.456)	(1.453)
Female	-0.004	-0.001	-0.008	0.624	0.864	0.827
	(0.087)	(0.092)	(0.088)	(1.899)	(1.858)	(1.838)
Log(MB)	0.028	0.019	0.028	0.468	0.440	0.489
	(0.018)	(0.019)	(0.018)	(0.343)	(0.333)	(0.341)
ROA	-0.000	0.000	-0.000	0.092***	0.094***	0.091***
	(0.001)	(0.001)	(0.001)	(0.024)	(0.024)	(0.024)
Log(Sales)	0.031**	0.032***	0.031**	-1.400***	-1.388***	-1.394***
	(0.012)	(0.012)	(0.012)	(0.305)	(0.303)	(0.304)
Year, Ind, State FE	x	x	x	x	x	x
Obs.	2,313	2,313	2,313	2,313	2,313	2,313
Adj. R^2	0.116	0.109	0.116	0.114	0.115	0.115

Table 10: Persistence of Cultural Heritage and Assimilation

Panel A: Differences across Individual CEOs

This table examines the cross-sectional variation in *CEO UAI* across individual CEOs. In Column (1) and (3), we interact CEO's *UAI* with *First Generation*, which is an indicator variable for CEOs who are born outside the U.S. In Column (2) and (4), we interact CEO's *UAI* with *Same Origin*, an indicator variable that equals to one of the country of origin is the same based on the CEO's first and last names. Definitions of all variables are provided in Appendix C. Standard errors are clustered at the firm level. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)
	Acquisition		Acquisition Rate	
CEO UAI	-0.158***	-0.152***	-2.332***	-3.037***
	(0.018)	(0.019)	(0.450)	(0.500)
UAI x First Generation	-0.049		-2.409*	
	(0.048)		(1.340)	
First Generation	0.004		0.831	
	(0.025)		(0.737)	
UAI x Missing First Generation	0.038		-1.111*	
	(0.025)		(0.672)	
Missing First Generation	-0.032**		0.720*	
	(0.015)		(0.387)	
UAI x Same Origin (First and Last Name)		-0.077*		-1.928*
		(0.045)		(1.155)
Same Origin (First and Last Name)		0.024		0.417
		(0.020)		(0.514)
UAI x Missing First Name Origin		0.028		0.269
		(0.026)		(0.710)
Missing First Name Origin		0.002		0.021
		(0.014)		(0.379)
CEO Age	-0.001***	-0.001***	-0.047***	-0.048***
	(0.000)	(0.000)	(0.009)	(0.009)
Missing Age	-0.076***	-0.077***	-2.884***	-2.896***
	(0.019)	(0.018)	(0.553)	(0.554)
CEO Education	0.007	0.006	-0.095	-0.088
	(0.005)	(0.005)	(0.135)	(0.135)
Missing Edu.	0.010	0.000	-0.244	-0.091
	(0.012)	(0.010)	(0.318)	(0.284)
Female	-0.029**	-0.028**	-0.607**	-0.612**
	(0.011)	(0.012)	(0.290)	(0.290)
Log(MB)	0.025***	0.025***	0.968***	0.972***
	(0.002)	(0.002)	(0.070)	(0.070)
ROA	0.000***	0.000***	0.035***	0.035***
	(0.000)	(0.000)	(0.003)	(0.003)
Log(Sales)	0.026***	0.026***	-0.267***	-0.274***
	(0.001)	(0.001)	(0.032)	(0.032)
Year, Ind, State FE	x	x	x	x
Obs.	71,109	71,109	71,109	71,109
Adj. R^2	0.057	0.057	0.039	0.039

Panel B: Differences based on Passenger Records

This table examines the persistence and assimilation of culturally inherited risk preferences exploiting the variation in the NY passenger lists associated with the last name. In Column (1) and (3), we interact CEO's *UAI* with *Early Arrival*, which is an indicator variable for last names for which the mode of the arrival time was before 1900. In Column (2) and (4), we interact CEO's *UAI* with *Fraction US Citizens*, which is the fraction of passengers with a given last name who were already U.S. citizens during 1820-1957. Definitions of all variables are provided in Appendix C. Standard errors are clustered at the firm level. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

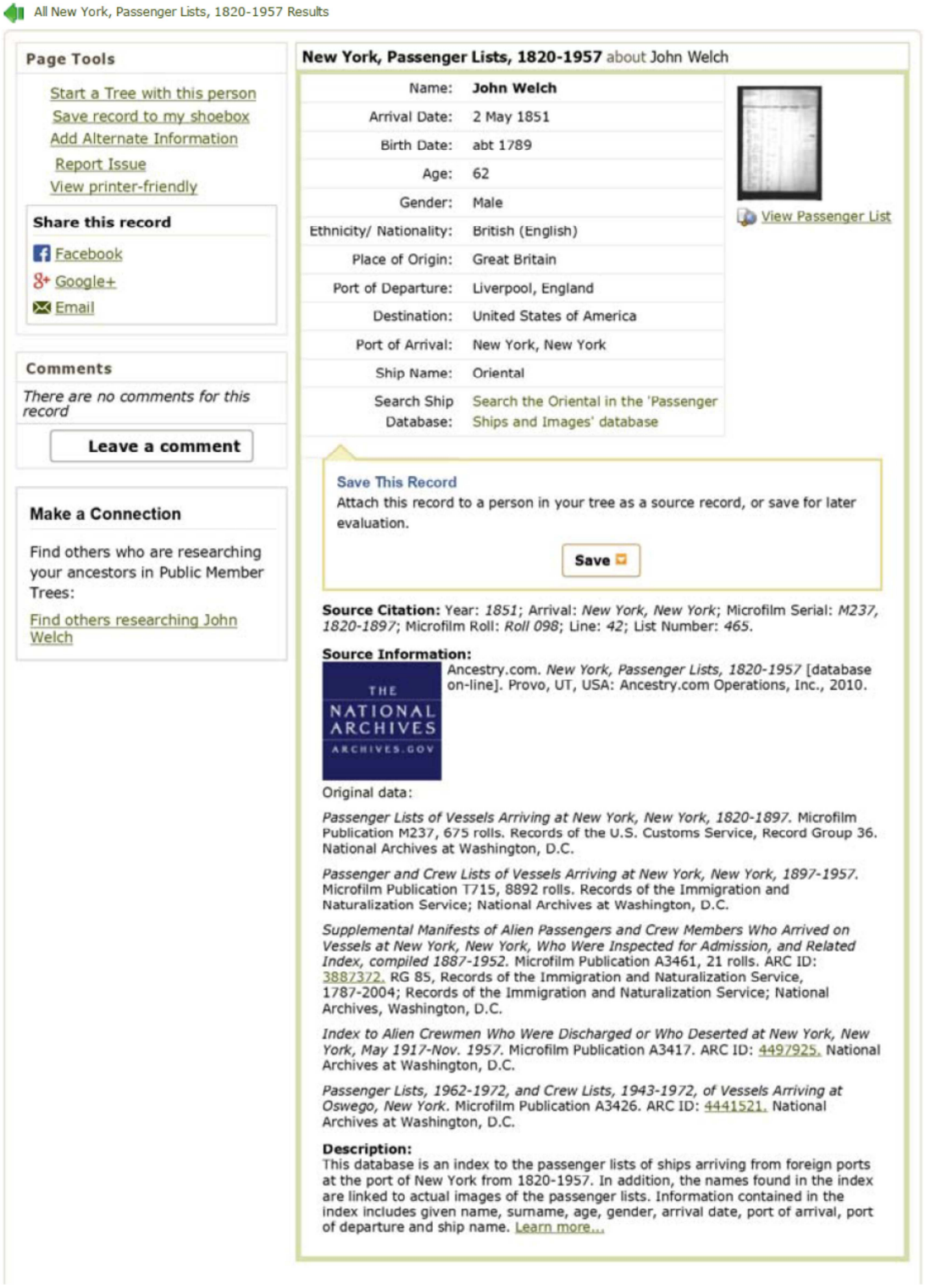
	(1)	(2)	(3)	(4)
	Acquisition		Acquisition Rate	
CEO UAI	-0.172***	-0.158***	-3.071***	-3.083***
	(0.017)	(0.017)	(0.434)	(0.450)
UAI x Early Arrival	0.067***		0.990	
	(0.025)		(0.666)	
Early Arrival	-0.022*		-0.160	
	(0.013)		(0.341)	
UAI x USAFreq		0.176**		3.221
		(0.085)		(2.106)
USAFreq		-0.034		-0.863
		(0.044)		(1.118)
CEO Age	-0.001***	-0.001***	-0.052***	-0.052***
	(0.000)	(0.000)	(0.009)	(0.009)
Missing Age	-0.075***	-0.077***	-3.150***	-3.175***
	(0.018)	(0.019)	(0.543)	(0.544)
CEO Education	0.006	0.006	-0.119	-0.109
	(0.005)	(0.005)	(0.133)	(0.133)
Missing Edu.	-0.000	0.001	-0.235	-0.210
	(0.010)	(0.010)	(0.282)	(0.282)
Female	-0.029**	-0.028**	-0.609**	-0.587**
	(0.012)	(0.012)	(0.290)	(0.292)
Log(MB)	0.025***	0.025***	0.964***	0.964***
	(0.002)	(0.002)	(0.068)	(0.068)
ROA	0.000***	0.000***	0.034***	0.034***
	(0.000)	(0.000)	(0.003)	(0.003)
Log(Sales)	0.026***	0.026***	-0.266***	-0.267***
	(0.001)	(0.001)	(0.028)	(0.028)
Year, Ind, State FE	x	x	x	x
Obs.	71,109	71,109	71,109	71,109
Adj. R^2	0.057	0.057	0.033	0.033

Table 11: Transmission through National Culture vs. Religion

In this table, we report the effect of *CEO UAI* on corporate acquisitions, with (Columns (2) and (4)) and without (Columns (1) and (3)) controlling for religion fixed effects. The sample includes all CEOs that one largest country of origin (based on the NY passenger records associated with the last names) can be identified. For this country of origin, we obtain the religion denomination followed by the largest respondents in the World Value Survey, which is the basis for the religion fixed effects. Definitions of all variables are provided in Appendix C. Standard errors are clustered at the firm level. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)
	Acquisition		Acquisition Rate	
CEO UAI	-0.161***	-0.137***	-3.111***	-2.581***
	(0.013)	(0.017)	(0.354)	(0.446)
CEO Age	-0.001***	-0.001***	-0.053***	-0.053***
	(0.000)	(0.000)	(0.010)	(0.010)
Missing Age	-0.075***	-0.076***	-3.283***	-3.303***
	(0.020)	(0.020)	(0.585)	(0.587)
CEO Education	0.004	0.005	-0.159	-0.139
	(0.005)	(0.005)	(0.144)	(0.143)
Missing Edu.	-0.002	-0.002	-0.320	-0.296
	(0.011)	(0.011)	(0.307)	(0.306)
Female	-0.024*	-0.025**	-0.474	-0.508
	(0.012)	(0.012)	(0.323)	(0.323)
Log(MB)	0.026***	0.026***	0.977***	0.983***
	(0.002)	(0.002)	(0.073)	(0.073)
ROA	0.000***	0.000***	0.034***	0.034***
	(0.000)	(0.000)	(0.004)	(0.004)
Log(Sales)	0.025***	0.025***	-0.282***	-0.283***
	(0.001)	(0.001)	(0.031)	(0.031)
Year, Ind, State FE	x	x	x	x
Religion FE		x		x
Obs.	62,759	62,759	62,759	62,759
Adj. R^2	0.058	0.058	0.034	0.035

Appendix A: Image of a Passenger Record from Ancestry.com



All New York, Passenger Lists, 1820-1957 Results

Page Tools

Start a Tree with this person
Save record to my shoebox
Add Alternate Information
Report Issue
View printer-friendly

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Comments

There are no comments for this record

Leave a comment

Make a Connection

Find others who are researching your ancestors in Public Member Trees:

Find others researching John Welch

New York, Passenger Lists, 1820-1957 about John Welch

Name:	**John Welch**
Arrival Date:	2 May 1851
Birth Date:	abt 1789
Age:	62
Gender:	Male
Ethnicity/ Nationality:	British (English)
Place of Origin:	Great Britain
Port of Departure:	Liverpool, England
Destination:	United States of America
Port of Arrival:	New York, New York
Ship Name:	Oriental
Search Ship Database:	Search the Oriental in the 'Passenger Ships and Images' database

View Passenger List

Save This Record
Attach this record to a person in your tree as a source record, or save for later evaluation.

Save

Source Citation: Year: *1851*; Arrival: *New York, New York*; Microfilm Serial: *M237, 1820-1897*; Microfilm Roll: *Roll 098*; Line: *42*; List Number: *465*.

Source Information:

Ancestry.com. *New York, Passenger Lists, 1820-1957* [database on-line]. Provo, UT, USA: Ancestry.com Operations, Inc., 2010.

Original data:

Passenger Lists of Vessels Arriving at New York, New York, 1820-1897. Microfilm Publication M237, 675 rolls. Records of the U.S. Customs Service, Record Group 36. National Archives at Washington, D.C.

Passenger and Crew Lists of Vessels Arriving at New York, New York, 1897-1957. Microfilm Publication T715, 8892 rolls. Records of the Immigration and Naturalization Service; National Archives at Washington, D.C.

Supplemental Manifests of Alien Passengers and Crew Members Who Arrived on Vessels at New York, New York, Who Were Inspected for Admission, and Related Index, compiled 1887-1952. Microfilm Publication A3461, 21 rolls. ARC ID: 3887372. RG 85, Records of the Immigration and Naturalization Service, 1787-2004; Records of the Immigration and Naturalization Service; National Archives, Washington, D.C.

Index to Alien Crewmen Who Were Discharged or Who Deserted at New York, New York, May 1917-Nov. 1957. Microfilm Publication A3417. ARC ID: 4497925. National Archives at Washington, D.C.

Passenger Lists, 1962-1972, and Crew Lists, 1943-1972, of Vessels Arriving at Oswego, New York. Microfilm Publication A3426. ARC ID: 4441521. National Archives at Washington, D.C.

Description:
This database is an index to the passenger lists of ships arriving from foreign ports at the port of New York from 1820-1957. In addition, the names found in the index are linked to actual images of the passenger lists. Information contained in the index includes given name, surname, age, gender, arrival date, port of arrival, port of departure and ship name. Learn more...

Appendix B: Distribution of Origins

This table lists all the countries of origins associated with passenger records of the same last name, their average and maximum frequency of occurrence, and the *UAI* and *Thrift* values by origin. *UAI* is the uncertainty avoidance index from the Hofstede Surveys (rescaled to fall between zero and one); *Thrift* is the average attitude towards thrift for each origin from the World Value Surveys. A maximum probability of 100% associated with an origin means that there exists at least one last name for which all passengers with that last name came from that origin. Origins with missing *UAI* or *Thrift* values are not covered by the relevant surveys.

Origin	Average Probability	Maximum Probability	UAI	Thrift
England	16.54%	100.00%	0.313	0.319
Germany	13.71%	100.00%	0.580	0.397
Italy	9.57%	100.00%	0.670	0.347
Ireland	6.09%	100.00%	0.313	0.217
Jewish	4.45%	100.00%	0.723	0.198
France	2.70%	100.00%	0.768	0.376
Scotland	2.26%	100.00%	0.313	0.319
Poland	2.06%	100.00%	0.830	0.393
Russia	1.91%	100.00%	0.848	0.518
Netherlands	1.83%	100.00%	0.473	0.209
Scandinavia	1.77%	100.00%	0.304	0.176
Hungary	1.36%	100.00%	0.732	0.396
Spain	1.18%	100.00%	0.768	0.322
Austria	1.17%	100.00%	0.625	0.487
Greece	1.14%	100.00%	1.000	0.299
Africa	0.96%	100.00%		
Canada	0.96%	100.00%	0.429	0.285
Sweden	0.86%	100.00%	0.259	0.300
China	0.85%	100.00%	0.268	0.572
Native American	0.75%	100.00%		
Norway	0.68%	100.00%	0.446	0.132
Switzerland	0.63%	100.00%	0.518	0.375
Slovakia	0.54%	100.00%	0.455	0.385
Syria	0.46%	100.00%	0.607	0.235
Czech Republic	0.45%	100.00%	0.661	0.304
Belgium	0.43%	100.00%	0.839	0.439
Ukraine	0.35%	100.00%	0.848	0.508
Denmark	0.33%	100.00%	0.205	0.096
Japan	0.31%	100.00%	0.821	0.481
Croatia	0.30%	100.00%	0.714	0.287
Romania	0.29%	100.00%	0.804	0.307
Hispanic	0.29%	100.00%	0.768	0.286
India	0.28%	100.00%	0.357	0.619
Finland	0.27%	100.00%	0.527	0.208
Portugal	0.26%	100.00%	0.929	0.322

Cuba	0.24%	100.00%		0.286
Armenia	0.22%	100.00%		
Slovenia	0.21%	100.00%	0.786	0.354
Lithuania	0.17%	100.00%	0.580	0.404
Wales	0.16%	40.43%	0.313	0.319
Iran	0.14%	100.00%	0.527	0.296
Turkey	0.14%	100.00%	0.759	0.303
Puerto Rico	0.13%	37.50%		0.236
Bulgaria	0.09%	100.00%	0.759	0.381
Egypt	0.09%	96.15%	0.607	0.080
Serbia	0.08%	87.50%	0.821	0.343
Arab World	0.08%	100.00%	0.607	0.235
Brazil	0.07%	33.33%	0.679	0.388
Latvia	0.06%	93.62%	0.563	0.451
Australia	0.06%	24.00%	0.455	0.186
Philippines	0.05%	33.33%	0.393	0.452
Venezuela	0.04%	23.24%	0.679	0.390
Albania	0.04%	50.00%		0.549
Yugoslavia	0.03%	100.00%	0.786	0.350
Polynesia	0.03%	50.00%		
Argentina	0.03%	17.95%	0.768	0.152
Malta	0.03%	60.00%	0.857	0.541
Colombia	0.03%	25.00%	0.714	0.251
Asia	0.03%	26.25%		
Chile	0.03%	10.53%	0.768	0.345
Lebanon	0.03%	33.33%	0.607	0.235
Estonia	0.02%	35.90%	0.536	0.444
Jordan	0.02%	40.00%	0.607	0.194
Palestine	0.02%	100.00%	0.607	0.235
Europe	0.02%	50.00%		
Montenegro	0.02%	37.35%		0.343
Macedonia	0.01%	23.08%	0.786	0.394
Honduras	0.01%	10.53%	0.768	0.286
Panama	0.01%	14.92%	0.768	
Dominican Republic	0.01%	25.00%		0.286
Bosnia	0.01%	17.14%	0.786	0.372
Ecuador	0.01%	50.00%	0.598	0.286
Malaysia	0.01%	7.94%	0.321	
Indonesia	0.01%	50.00%	0.429	0.520
Peru	0.01%	23.78%	0.777	0.235
Tunisia	0.01%	66.67%	0.607	0.235
Iceland	0.01%	33.33%		0.205
South Africa	0.01%	20.00%	0.438	0.359
Bermuda	0.01%	3.19%		
Morocco	<0.01%	33.33%	0.607	0.358

Pakistan	<0.01%	36.36%	0.625	0.555
Jamaica	<0.01%	6.78%	0.116	0.286
Iraq	<0.01%	10.00%	0.607	0.282
Czechoslovakia	<0.01%	4.65%	0.558	0.344
Korea	<0.01%	11.76%	0.759	0.675
Sudan	<0.01%	25.00%		
Costa Rica	<0.01%	8.28%	0.768	0.286
Burma	<0.01%	30.00%		
Haiti	<0.01%	5.88%		
New Zealand	<0.01%	1.30%	0.438	0.237
Nicaragua	<0.01%	9.28%		
Muslim	<0.01%	1.75%	0.536	0.313
Uruguay	<0.01%	1.14%	0.893	0.263
Senegal	<0.01%	8.33%		
West Indies	<0.01%	0.70%		
Mongolia	<0.01%	5.88%		
Guatemala	<0.01%	2.50%	0.902	0.286
Vietnam	<0.01%	3.33%	0.268	0.481
Liberia	<0.01%	3.13%		
Afghanistan	<0.01%	3.80%		
Bolivia	<0.01%	0.79%	0.768	0.286
Barbados	<0.01%	0.43%		
Ethiopia	<0.01%	2.70%	0.464	
Thailand	<0.01%	1.16%	0.571	
Germany-France	<0.01%	0.40%	0.674	0.387
Mexico	<0.01%	0.22%	0.732	0.376
Paraguay	<0.01%	0.80%	0.768	0.286
Cyprus	<0.01%	0.77%		
Algeria	<0.01%	0.22%	0.607	0.179
El Salvador	<0.01%	0.32%	0.839	0.286
Sri Lanka	<0.01%	0.74%		
Central America	<0.01%	0.16%	0.625	0.286
Somalia	<0.01%	0.16%		
Luxembourg	<0.01%	0.23%	0.625	0.473
Pacific Islander	<0.01%	0.09%		
Guiana	<0.01%	0.06%		
Isle of Man	<0.01%	0.02%	0.313	0.319
Nigeria	<0.01%	0.02%	0.482	0.103
Germany-Poland	<0.01%	0.01%	0.705	0.395
Grenada	<0.01%	<0.01%		
Virgin Islands	<0.01%	<0.01%		
USA[25]	17.77%	100.00%	0.411	0.228
Unidentifiable	1.68%	100.00%		

[25] Not included in the construction of culturally transmitted preferences.

Appendix C: Variable Definitions

CEO UAI	Uncertainty Avoidance Index, from Hofstede, based on the CEO's last name. Please see the data section for detailed explanation.
CEO UAI (Mother)	Uncertainty Avoidance Index, from Hofstede, based on the CEO's mother's maiden name.
CEO Thrift	We obtain country-level averages of attitudes towards thrift from the World Values Survey. For each last name, we then form weighted averages of thrift across the associated countries of origin. Please see the data section for detailed explanation.
CEO PDI	Power Distance Index, from Hofstede, based on the CEO's last name.
CEO IDV	Individualism versus Collectivism, from Hofstede, based on the CEO's last name.
CEO MAS	Masculinity versus Femininity, from Hofstede, based on the CEO's last name.
CEO LTO	Long Term Orientation versus Short Term Normative Orientation, from Hofstede, based on the CEO's last name.
CEO IND	Indulgence versus Restraint, from Hofstede, based on the CEO's last name.
Fraction Unidentifiable	The fraction of passengers with a given last name that has unidentifiable origin.
# of Origins	The number of origins associated with a last name.
Dominant Origin	An indicator variable that equals one if a CEO's last name is associated with a dominant origin that represents the origin of more than 50% of the immigrants with the same last name.
Dispersion in UAI	The standard deviation of *UAI* values associated with different origins of a given last name.
Fraction of Origins Missing UAI	The fraction of records per last name without a *UAI* value.
Fewer Limitations	An indicator variable that equals to one for a last name if both *Fraction Unidentifiable* and *Fraction of Origins Missing UAI* are below their sample means.
First Generation	An indicator variable that equals one if a CEO is a first generation immigrant in the US and zero otherwise (including CEOs for whom we do not have birthplace information).
Missing First Generation	An indicator variable that equals one if we do not have birthplace information for the CEO.
Same Origin (First and Last Name)	An indicator variable that equals one if the origin for the first name (based on onomap) and the largest origin for the last name (based on NY passenger lists associated with this last name) are the same.
Missing First Name Origin	An indicator variable that equals one if we do not have information on the origin of the first name.
Fraction US Citizen	The fraction of passengers with a particular last name that declared themselves to be U.S. citizens when entering the US during 1820-1957.
Early Arrival	An indicator variable that equals to 1 if the mode for the arrival year of all records associated with the CEO's last name is less than 1900.
CEO Age	The age of the CEO.
Missing Age	An indicator variable that equals one if a CEO's age information is

	missing, and zero otherwise.
CEO Education	The level of the CEO's education. It is equal to three if the CEO holds a doctorate degree (including post-doctoral training), and equal to two if the highest degree is a Master's degree, and equal to one if the highest degree is undergraduate. If the education information is missing, we set "CEO Education" to be zero, and "Missing Education" is equal to one.
Missing Education	An indicator variable that equals one if a CEO's education information is missing, and zero otherwise.
Female	An indicator variable that equals one if a CEO is a female, and zero if female.
Acquisition	An indicator variable that equals one if the firm engages in mergers or acquisitions during a fiscal year, and zero otherwise.
Acquisition Rate	Acquisition transaction value scaled by the firm's book assets at the beginning of the year, expressed in percentage term.
Acquirer-Target Cash Flow Correlation	The correlation of quarterly cash flow (operating cash flow scaled by lagged assets) between the acquirer and the target in the 10 years before the acquisition year.
Stock Acquisition	An indicator variable that equals to one if the acquirer has used its equity to finance a deal in the firm-year.
Cash Rate	Cash holding scaled by the firm's book assets, expressed in percentage term.
Leverage	Total debt scaled by the firm's book assets, expressed in percentage term.
Payout Ratio	Total dividend payout divided by total earnings.
Log(MB)	The logarithm of the firm's market value of equity to book value of equity ratio.
ROA	Earnings before interest, tax, and depreciation scaled by the firm's book assets at the beginning of the year, expressed in percentage term.
Log(Sales)	The logarithm of the firm's net sales.
Log(GDP) at Origin	The logarithm of the origin-probability-weighted average 1980 GDP per capital for each CEO.
Log(Life Expectancy) at Origin	The logarithm of the origin-probability-weighted average 1980 life expectancy for each CEO.
Schooling at Origin	The origin-probability-weighted average fraction of population with secondary school education in 1980 for each CEO.
Quality of Institution at Origin	The origin-probability-weighted average quality of institution's index in 1980 for each CEO.
Genetic Distance	Genetic distance measures the genetic differences between two populations and is based on differences in allele frequencies (see, Cavalli-Sforza, Menozzi, and Piazza (1994)). We obtain genetic distance data for a global set of country pairs (*Genetic Distance (World)*) and for a smaller set of European country pairs (*Genetic Distance (Europe)*) from Spolaore and Wacziarg (2009).
|Difference in Acquisition|	The absolute difference in the average acquisitiveness of two different origin countries over the entire sample period
|Difference in UAI|	The absolute difference in the UAI of each country pair

Appendix D: Comparison of the Effect of CEO Characteristics on Corporate Investments

In this table we compare the effect of CEO's culturally transmitted risk preference in our paper with the effects of CEO characteristics in other papers on corporate investment. The range of the estimated effects of CEO UAI on corporate investment in our paper reflects empirical specifications without industry or firm fixed effects to with firm fixed effects.

Paper	CEO Characteristics	Comparison between	Acquisition	Acquisition Rate (scaled by assets)	Acquisition Rate (scaled by PPE)
Pan, Siegel, and Wang (2014)	CEO's culturally transmitted risk preference	Least uncertainty tolerant (top 10% or 25% of the CEO UAI distribution) vs. Others	-4.3pp to -7.4pp Odds ratio (top 10% vs. others): 0.5	-0.7pp to -1.2pp	-2.3pp to -6.3pp
Graham, Harvey, and Puri (2013)	A lottery-based measure of CEO risk preference	Highly risk averse (10% of CEOs in their sample) vs. Others	-9.0pp		
Cain and McKeon (2014)	Having small aircraft pilot license	With pilot license (6% of CEOs in their sample) vs. without	Odds ratio (pilot CEOs vs. non-pilot CEOs): 1.7		
Benmelech and Frydman (2014)	Military experience	With military experience (25% of CEOs in their sample) vs. without		0.03pp to -0.1pp	
Malmendier and Tate (2008)	CEO over-confident based on stock option exercising	Late option exerciser CEOs (11% of CEOs in their sample) vs. others	Odds ratio (overconfident vs. others): 1.6 to 2.0		
Huang and Kisgen (2013)	CEO gender	Firms before and after a transition from male to female CEOs (6% of CEOs in their sample)			-5pp