Gender Pay Gap across Cultures

Natasha Burns
University of Texas at San Antonio
natasha.burns@utsa.edu
210-458-6838

Kristina Minnick
Bentley University
kminnick@bentley.edu
781-891-2941

Jeffry Netter
University of Georgia
jnetter@uga.edu
706 542-3654

Laura Starks
University of Texas at Austin and NBER
lstarks@mail.utexas.edu
512-471-5899

September 2022

We employ a cross-country sample to examine whether cultural differences help explain gender compensation variations across corporate executives. The results show that the cultural differences, which are embedded in societies from long prior to the compensation decisions, provide significant explanatory power to the observed gender gap in executive compensation. Using an Oaxaca-Blinder decomposition combined with variables that have previously been shown to be significant determinants of executive compensation, we find that adding cultural measures to the model increases the explanatory power from 44% to 95% of the gender compensation gap.

Keywords: Gender Pay Gap, Culture, Corporate governance, Executive compensation
JEL Classification: G15, G30, G34, G40

The authors thank Paola Sapienza (discussant), Steve Malliaris, Maria Marchica, Annette Poulsen, Malcolm Wardlaw, and participants at the AFA meetings, seminars at the University of Georgia, the Ph.D. Project, University of Bristol, the University of Exeter, the University of Lancaster, and the University of Manchester for helpful comments.

1. Introduction

A significant gender pay gap exists worldwide, which is pervasive across countries, sectors, and job roles. In fact, according to a 2021 report by the World Economic Forum, women earn 37% less than men in similar positions.[1] A number of explanations have been proposed for the documented gender pay disparities.[2] In particular, in early research, Lazear and Rosen (1990) and Becker (1957) develop two primary explanations that pertain to the gender pay gap — values of human-capital differences and taste-based discrimination. The human-capital differences argument implies that the gender pay gaps reflect differences in perceptions regarding labor market and non-labor market abilities of women versus men. In contrast to this explanation, Becker's (1957) formalized taste-based discrimination model argues that differences in economic outcomes, such as pay, result from beliefs and attitudes held by employers, workers, or clients. Becker and others (e.g., Arrow, 1973) further argue that taste-based discrimination should be arbitraged away in a competitive market.

Both the human-capital differences and taste-based discrimination explanations rely on individuals' perceptions, beliefs, and attitudes, and as such, they reflect a society's cultural norms. These cultural norms suggest the intent behind behavior that can affect employment-related outcomes that differ between men and women. We examine the extent to which cross-country cultural norms can explain gender wage differentials, even among highly skilled individuals in a particularly competitive market. We focus on the compensation of top executives, a market for which the pool of people with appropriate talent and skill is limited relative to the demand, creating significant competition which should arbitrage away market-based differences (Becker, 1957).

[1] The global gender gap itself is still so broad as to garner predictions such as the recent World Economic Forum's Gender Gap Report 2021 statement: "On its current trajectory, it will now take 135.6 years to close the gender gap worldwide." See (https://www.weforum.org/reports/global-gender-gap-report-2021/)

[2] See, for example, Blau and Kahn (1992, 1997, 2000, 2003, 2017), O'Neill and Polachek (1993), O'Neill (2003), Bertrand, Goldin, Katz (2010), Gayle, Golan and Miller (2012), Guvenen, Kaplan, Song (2020), Sapienza (2020), among others.

Focusing on executives provides an ideal setting that largely avoids effects from some important possible sources of a gender pay gap as listed by Blau and Kahn (2017), such as human-capital differences, the family division of labor, and self-selection.[3] Further, as we later explain, our analysis is also less likely to be affected by reverse causality.

Our cross-country sample allows us to exploit differences in country cultural beliefs and attitudes to investigate their association with gender wage differentials. These beliefs and attitudes manifest in social systems and become reflected in firms' corporate governance systems. For example, Adams, Licht and Sagiv (2011) and Licht and Adams (2022) provide evidence that board members' personal values influence their decisions and that these personal values are related to country cultural norms. Thus, the board members' decisions regarding executive compensation should reflect these norms. Moreover, beliefs about gender roles have been shown to be persistent (i.e., intergenerational), even following immigrants to new countries such as the United States (Bisin and Verdier, 2000; Alesina, Giuliano, and Nunn, 2013; McLean, Pirinsky and Zhao, 2022).

Testing our hypotheses on a sample of top executives across 31 countries over the 2004-2016 period, we find a significant gender compensation gap, on average, across countries and across various executive roles. In most of the countries in our sample, the male executives tend to receive higher compensation than the female executives. This is not, however, a universal characteristic as variation exists with some countries showing no significant executive gender pay gap and a few others indicating that, on average, the female executives receive greater compensation than their male counterparts.

To test our hypotheses regarding whether executive gender pay gaps can be partially attributable to cultural norms, we construct measures from the World Values Survey (WVS), a global survey of individuals designed to understand people's beliefs, values, and motivations.[4]

[3] However, even among the top earners in the United States, Guvenen, Kaplan and Song (2020) show a narrowing, but persistent gender pay gap, and more pertinent to our analysis, Sapienza (2020) provides evidence that even in the upper echelons of top executives, the gender gap persists.

[4] Measures developed from this survey have been used in previous literature to assess the role of culture in different economic settings such as identifying the relationship between a society's intensity of religious beliefs and economic attitudes, including attitudes towards working women (Guiso, Sapienza and Zingales, 2003), explaining gender differences in math scores (Guiso, Monte, Sapienza and Zingales, 2008), gender differences in employment choices

Consistent with our hypotheses, we find that a significant portion of the gender pay gap, even among top executives, can be explained by cultural norms.

We conduct a principal component analysis, which allows us to examine the combined effects of related cultural norms as well as to mitigate problems arising from correlations across the norms. According to this analysis, the country cultural attributes divide into three primary categories, each of which is significantly associated with the gender gap. The first category reflects a society's beliefs and attitudes regarding women's education and work; that is, whether women should receive equal education to men, and whether positive views toward women's roles in the workplace exist. Our empirical tests support the hypothesis that in cultures that value education for women and their roles in the workplace, smaller executive gender pay gaps exist.

The principal component analysis identifies an important second category of cultural attributes that includes beliefs and attitudes related to other aspects of societal views towards women: acceptance of violence toward women, the degree to which religious beliefs are dogmatic, and the acceptance of intolerance and corruption. Given the previous literature on the ways through which these types of cultural norms are related to gender roles (e.g., Welzel, 2013; Flood and Pease, 2006; Guiso, Sapienza and Zingales, 2003; McLean, Pirinsky and Zhao, 2022), we hypothesize that such beliefs and attitudes should also be related to gender pay gaps. The coefficients on this factor support this hypothesis.

The third category of cultural variables that derive from the principal component analysis pertain more toward markets and executive compensation in general. The category includes societal views toward hard work and success, the role of the individual in society, and the level of trust in the society. These cultural norms are aligned with previous research. For example, Burns, Minnick and Starks (2017) provide evidence that the structure of CEO compensation and executive pay dispersion is associated with the cultural norms of hard work (versus connections) and individualism. In addition, previous research has shown trust to be vital for cooperation and

and the resultant average gender pay gap (Fortin, 2005), and the role of culture in cross-border takeover transactions (Ahern, Daminelli and Fracassi, 2015).

economic transactions (Guiso, Sapienza and Zingales, 2008). We find the factor that incorporates these cultural norms is significantly related to the executive gender pay gap. [5]

We also show that most of the individual cultural variables within each factor are related to the gender pay gap. Moreover, the cultural norm of greater acceptance of gendered violence is the strongest predictor of the pay gap among top executives and is noteworthy due to its unlikely endogeneity issue and that it does not as strongly relate to the division of labor and market organization, unlike the other cultural attitudes. Further, these relations between cultural norms and the executive gender pay gap hold not only across executives in general but also across subsamples of the data: CEOs only, the top 3 other executives (defined as President, COO, and CFO – but not CEO), and all other executives.

We also find that the cultural views associated with smaller gender pay gaps are associated with increased compensation for men. The impact of culture on the treatment of women and the impact on men is not a new idea. Mary Wollstonecraft in 1792 argued that by changes in society attitudes toward girl's education and role in society would improve the lives of not only women, but men.

To understand the economic importance of the relation between cultural norms and gender compensation, we use the decomposition method developed by Oaxaca (1973) and Blinder (1973) and confirm that both the total and the unexplained compensation gaps remain significant for our sample period for CEOs, the top three executives other than CEO, and the other non-top executives. After we account for variables previously shown to be related to executive compensation, such as position, CEO tenure, and firm characteristics, we find that these variables in combination explain 44 percent of the compensation gap we have identified. When we add cultural measures to the model, we can explain 95% of the gender compensation gap.

[5] We note that the three categories do not have well-defined lines between the groupings as trust and religion show up in both the beliefs related to women's role in society and the beliefs related to hard work, but each variable has a substantially stronger connection to the category in which it is included.

The strong implication of our results is that country cultural values affect outcomes for women, specifically the executive gender pay gap. Our results support the hypotheses that while the presence of some societal norms reduces the gap, the presence of other norms exacerbates the gap. Although culture is slow to change, to strengthen our identification, we employ a quasi-natural experiment of two major country-level policy changes that would be expected to reduce the gender pay gap: (1) legislation that initiates paternity leaves and (2) the proposal of laws to increase gender diversity on corporate boards. Paternity leave laws should help reduce the career consequences of child-rearing. A primary explanation given for the gender pay gap is that women's career paths face disruptions due to their taking leaves to raise children (e.g., Goldin, 2014). In countries that introduce paternity leave laws, men should also potentially experience this career disruption since they would be able (and incentivized) to take advantage of their nonmarket labor skills. This type of law should be exogenous to an executive's compensation.[6] Similarly, board diversity laws should be exogenous to an executive's compensation within a firm. Since each of these laws have had staggered adoption (or proposals) across countries (and they have not been adopted by all countries), we can utilize each country's individual events to test whether they can affect the gender pay gaps. Consistent with the hypotheses, we find that after a country introduces either of these laws, the executive gender pay gap lessens.

Our research contributes to the gender gap literature in important ways. Determining why gender pay gaps exist faces challenges not only because of the number of factors that could help explain the gap as well as the endogeneity problems inherent in the empirical tests. Restricting our sample to the executive level allows us to mitigate many of the issues that arise in analyzing the gender pay gap. For example, we generally avoid the problem that the gap could be explained in part by differences in seniority, tenure, and job responsibilities. These differences are difficult, if not impossible, to control in wide-scale studies. Our research design addresses the endogeneity

[6] Since many top executives are older and in particular, female executives are less likely to be having children at the top executive average age, the law should not be directly relevant to women who have reached the executive level (where the average age is 53). However, paternity laws reflect the country's current views or goals that both fathers and mothers take time to care for their children.

problems detailed in Roberts and Whited (2017), including selection bias, reverse causality, and measurement error. Relative to other gender compensation research, the sample of highly skilled top executives should be less affected by selection bias and reverse causality. For example, a human-capital difference—self-selection—is less likely to be an issue with female executives because they are unlikely to believe in the inferiority of women (in leadership or entitlement) that would self-constrain their labor force participation or investment in labor force training.[7]

Although research suggests gender differences in human capital relating to competition—that women may tend to avoid or perform differently in competitive environments (Flory, Leibbrandt, and List, 2015), evidence indicates that this issue should not be as significant a concern for our sample, because the competitiveness gap tends to disappear for women MBAs over time as well as for older women (Reuben, Sapienza and Zingales, 2015; Flory, Gneezy, Leonard and List, 2020).[8] Further, these executives serve in comparable roles and their hiring and firing take place in a competitive market where inefficiencies should be arbitraged away. In fact, studying compensation at the executive level gives us the advantage of a particularly competitive market (due to the level of compensation and the frequent use of consultants), which should result in lower gender compensation gaps, as suggested by Arrow's (1973) theoretical arguments that a competitive market eliminates taste-based discrimination.

Reverse causality is less likely to be a problem in our analysis because the culture measures reflect persistent attitudes of the average inhabitant of a country. Further, a relatively small number of women executives are less likely to change these attitudes in the few years after they are employed. We mitigate measurement errors of culture by employing 1) an index of similar belief responses, rather than one, as proposed by Inglehart and Welzel (2005); 2) measures of cultural norms that are both directly and indirectly related to beliefs about women in the workforce; and 3)

[7] For example, in a sample of U.S. executives, Kosteas (2013) finds that women with less traditional gender role beliefs and attitudes are more likely to invest in training. Thus, variance in human capital in experience and training should be less severe for the talented individuals that reach an executive position. Indeed, the Lazear and Rosen (1990) model suggests that gender should matter less at high levels of ability. See Maasoumi and Wang (2019) for theoretical background on self-selection and its potentially associated misspecification issues in the gender gap research
.

measures of cultural norms determined well in advance of the executives' employment. As argued by Guiso, Sapienza, and Zingales (2006), some cultural exchanges can be very slow to change, for example, due to generational teaching or to organizations such as governments, churches that have vested interests in maintaining cultural beliefs.

Several studies are related to our research. Fortin (2005) examines whether differences in cultural norms regarding gender roles affect women's employment decisions, employment rates, and the overall gender compensation gap. Adams and Lowry (2022b) study gender differences in job satisfaction for academics in finance, showing that the effects of bias (taste-based discrimination) have a stronger impact on job satisfaction than gender difference in preferences or the structure of academic work.[9] However, we address a fundamentally different question from the questions addressed in these papers. Fortin (2005) and Adams and Lowry (2022b) analyze individual outcomes based on the individual's own views; we examine how societal beliefs and attitudes affect executive compensation given the norms of the country where the firm and its executives are located. In contrast to Fortin but similar to Adams and Lowry, our sample consists of a group of highly skilled workers, which would be less likely to hold beliefs inconsistent with success in their competitive labor pool.

McLean, Pirinsky and Zhao (2022) use a combination of WVS and Hofstede data to form a measure of gender egalitarianism based on immigration patterns by U.S. County. Based on their empirical findings, they conclude that regional differences in inherited gender egalitarianism beliefs can explain differences in the gender gap in proportions of U.S. directors and executives. Their analysis is centered on heterogeneity in proportions of women in key positions across U.S. firms, while we study the executive gender pay gap in companies across countries. Examining the gender pay gap across countries enhances the analysis of cultural effects because cross-country

[9] Adams and Lowry (2022b) measure preferences for achievement using items from the WVS.

variation in culture is much larger than within-country variation in culture (even among the most distant groups within a country (Welzel, 2013).[10]

2. Measures of Cultural Norms, Country Institutional Characteristics and Executive Compensation

In order to test our hypotheses regarding the relations between cultural norms and gender differences in executive compensation, we need measures of societal norms in each country, country institutional characteristics and executive compensation. In this section, we describe these measures.

2.1. Measures of Cultural Norms

The WVS, from which we derive our measures of cultural values, is conducted in person by a worldwide network of social scientists at different points in time, i.e., in waves.[11] To match our sample period, we employ Wave 4 (1999-2004), Wave 5 (2005-2009) and Wave 6 (2010-2014) and match the closest WVS wave response to the year of our compensation data.

Employing the techniques suggested by Inglehart and Welzel (2005) and Welzel (2013), we first create index measures of culture from the WVS by adjusting the responses to achieve the same polarity, i.e., a higher value means the same for each aspect of culture. (The WVS responses are measured on different scales—for example, some responses are measured on the degree of agreement to a statement on a scale of 1 to 3, 1 to 5, or 1 to 10, while others are dichotomous, with a 0 or 1 response.) We standardize each WVS item on a scale with a minimum of 0 and a maximum

[10] We also add to the literature on gender gaps in the business world more generally, such as those that have been documented for early-stage investment (e.g., Ewens and Townsend, 2020; Gompers and Calder-Wang, 2021), and for directors; (e.g., Adams and Funk, 2021; Field, Souther and Yore, 2020). Zandberg (2021) provides evidence that reproductive health affects the gender gap in entrepreneurship. Francis, Hasan, Shen, and Wu (2021) find that activist hedge funds are more likely to target female CEOs, but they conclude that bias is not an explanation for the differences in targeting by gender.

[11] See Inglehart, et al. (2014) for more detailed information.

of 1.[12] Finally, we average across groups of related responses because, as argued by Welzel (2013), culture takes place at the group level, thus, the mean values represent aggregate measures of culture in each country. These adjustments provide two benefits, more straightforward interpretations of the survey responses and indices of related values that are averages across the responses.

We first consider a group of WVS questions directly related to values, attitudes, and beliefs regarding women, specifically, questions covering women's entitlement to education and the role of women in society. These questions allow us to infer the average beliefs in a society regarding the importance of building women's human capital, the importance of women's labor force participation, women's right to work, the desirability of women working relative to men, and the impact of women's working on their families. If these beliefs and attitudes provide less power to women, then the economic structure should reflect it, including compensation at the executive level.

We group the WVS questions into two groups of gender-related indices—Gender-_education and Gender_work:

Gender_education— (positive views regarding female education)
1. Disagree with: a university is more important for a boy than a girl.
2. Agree with: Important traits in a woman: Woman educated.

Gender_ work— (positive views regarding women in the workforce)
1. Agree with: When jobs are scarce: both men and women have the right to work.
2. Agree with: Husband and wife should both contribute to income.
3. Agree with: Important traits in a woman: Woman having work outside the home.
4. Disagree with: Woman should not work outside of the home unless forced to do so.
5. Disagree with: if a woman earns more than her husband, it is almost certain to cause a problem.
6. Agree with: Having a job is the best way for a woman to be an independent person.
7. Disagree with: When a mother works for pay, the children suffer.

We also employ a group of WVS questions that we expect to be related to other values, attitudes, and beliefs regarding women. These questions focus on religion, the acceptance of

[12] With binary responses, we recode the response to be either zero or one, where zero is disagreement, and one is agreement. If there are three possible responses, we recode to 0,.5,1; four responses is 0,.33,.66,1; five responses is 0, 0.25, 0.50, 0.75, 1; and 10 possible responses is 0, 0.11, 0.22, 0.33,0.44,0.55, 0.661.0 where 0 is disagreement and 10 is agreement with the trait, as suggested by Welzel (2013).

violence toward women, and intolerance in the society. The first set relate to a society's religious beliefs as religion is an important source for teaching and shaping cultural values regarding gender differences in the workplace. Further, religion has been found to be important in economic outcomes. For example, Guiso, Sapienza, and Zingales (2003) find a significant relationship between the intensity of religion in a society and the society's economic attitudes, including the views of women's roles. We include a measure of the society's belief in the authority of the church and religion based on the following questions:[13]

Religious beliefs
1. Agree with: Do you have a great deal of confidence in the church?
2. Agree with: When science and religion conflict, religion is always right.

We also employ a measure of the justification of violence towards women and children as an additional way to capture cultural attitudes toward women. Flood and Pease (2006) review the literature on the relation between a society's attitudes regarding gender roles and violence towards women. They summarize that from over twenty years of research the most consistent predictor of acceptance of violence towards women is holding more traditional gender-role attitudes, and further that its counterpart also exists in the data - holding more egalitarian gender-role attitudes is associated with less acceptance of violence against women.[14] In environments in which violence is more acceptable, the roles tend to involve more inequality in social, political, and economic aspects. To capture this attitude, we employ a measure of whether violence toward a wife or a child is never justified as a variable that is correlated with underlying beliefs, although it is unlikely to directly affect executive compensation.[15]

Violence
1. Never justified: For a man to beat his wife
2. Never justified: To beat your children

[13] Guiso, Sapienza and Zingales (2003) employ WVS questions related to the adherence to a religious belief and the intensity of religion through frequency of attendance at religious services. Our questions are designed to capture how dogmatic the religious beliefs are.

[14] The evidence in this work also indicates that more extreme gender-role attitudes (male authoritarianism, aggressiveness, superior to women, hostility to women) are associated with more acceptance of violence towards women.

[15] Other research focuses on violence and outside options by gender. See for example, Aizer (2010) on wages and violence towards women, among others. We use acceptance of violence as a summarizing attitude.

Welzel (2013) and Kristler, Thoni, and Welzel (2015) describe that modernization is a process through which the lives of people improve, providing them with more opportunities to thrive and with fewer threats. They argue that as societies become more modern, acceptance of differences often becomes more important for growth. According to Kristler, Thoni, Welzel (2015) "tolerating and practicing freedoms becomes increasingly vital to take advantage of the options" (pg. 105) and people begin to see more value in freedoms and greater tolerance for those that have different views. Welzel (2013) suggests respecting freedom of choice requires tolerance. Thus, in addition to the measures above, we employ measures of intolerance— racial intolerance and intolerance for immigrants.[16] We capture the intolerance in a country culture using responses to the following questions:

Intolerance
1. Disagree with: Is it proper for churches to speak out on racial discrimination?
2. Agree with: When jobs are scarce, employers should give priority to people of this country over immigrants.

Finally, we use a group of variables that more generally capture a society's values, attitudes, and beliefs about work, success, and ethics, which should reflect views toward executive compensation in general, as these variables have been employed in previous research. For example, Granato, Inglehart and Leblang (1996) study motivation and achievement and find that cultures that value work and individual performance provide substantial motivation to succeed. Thus, we employ a set of WVS questions that reflect a population's views on whether success is more likely to be an outcome of hard work or connections—that is, whether the respondents consider that hard work, rather than luck and connections, brings a better life.[17] Similarly, in this set are questions that address attitudes towards the importance of a balance between work and leisure.

[16] The classic work by Weber (1905, translated 1930) began this approach with his argument that the ethics of ascetic Protestantism and its work ethic was necessary for the rise of Capitalism. See Guiso, Sapienza and Zingles (2003) for further discussion.

[17] Burns, Minnick, and Starks (2017) provide evidence that executive compensation differences, i.e., tournament effects, between a CEO and other top executives are associated with a society's views on hard work as measured by the WVS questions.

We also employ a set of questions that focus on a population's views on the importance of individualism. If individualism is respected, then people should recognize an individual's contribution, thereby reducing taste-based preferences. In contrast, if the collective is more highly valued, people who deviate from a norm or expectation may be hampered in society. We list below the components of each of these indices, which include child-rearing values that likely reflect an individual's concerns and ideals that are considered important to pass on, i.e., ingrained in the culture. Each item is preceded by the answer coded to the higher value on our scale:

Hard work— (importance of work)
1. Agree with: Work is what makes life worth living, not leisure
2. Agree with: People who do not work become lazy
3. Agree with: Work should come first above all else
4. Agree with: Hard work brings success versus is more a matter of luck and connections
5. Very important: How important in your life would you say it is: Work
6. Agree with: Importance as a quality for children to learn at home: Hard work.

Individualism— (Individual is preferred)
1. Agree with: Feel have complete control and choice over the way your life turns out
2. Disagree with: one should follow one's superior's instructions even when one does not fully agree with them vs should follow one's superior's instructions only when one is convinced that they are right.
3. Agree with: I seek to be myself rather than to follow others
4. Agree with: How much respect is there for individual human rights in this country
5. Agree with: Importance as a quality for children to learn at home: Independence

The next set of questions includes measures of trust and corruption. Trust is argued to be vital for cooperation and ultimately, economic performance (Guiso, Sapienza, and Zingales, 2008). Trust and cooperation occur when people expect fair and competent behavior from others. In cultures where trust and fairness are not strongly present, there may be less cooperation with women if beliefs about women enable justification for this choice. We construct a trust measure using WVS questions that either directly ask about fairness or whether the respondent believes that people can be trusted. Further, acceptance of corruption or bribery implies a lack of trust in a fair system and increases the use of established network ties. Thus, we employ a measure of acceptance of corruption from an idealistic viewpoint.

Trust (people can be trusted)
1. Agree with most people try to be fair: Do you think most people would try to take advantage of you or do you think most people try to be fair
2. Agree with people can be trusted: Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?

Bribery justified
1. Agree with bribery is always justifiable: It is never justifiable to accept a bribe vs. always justifiable

2.2. Labor force participation, law, and other controls

In addition to employing measures of a country's cultural norms, we employ measures of a country's institutions and laws that would be expected to affect gender pay gaps. First, we include a country's female labor force participation rate, which should capture the effects of a country's work-family policies as well as its societal expectations for women's market and nonmarket contributions, some of which are unobservable. Because we have a sample of positively selected individuals, it is not clear whether the female labor force participation rates should affect our results. For example, Guvenean, Kaplan, and Song (2020), using US. data, show that female labor force participation rates explain less than 10 percent of the change in share of women among top earners.[18] We derive the female labor participation rate, *% female labor participation*, from the Ortiz-Ospina, Tzvetkova, and Roser (2018) data.

Another aspect of a country's institutions and laws that relate to executive compensation, are laws regarding firm-level corporate governance. For example, Shleifer and Vishny (1997) suggest that on a cross-country basis, corporate governance captures the essential economic and legal institutions. In addition, La Porta et al. (LLSV) (1997, 1998) show the importance of the legal and investor protection on the governance of firms, the development of markets, and economic growth. We use a modified version of their index developed by Spamann (2010), *ADRI*,

[18] The Blau and Kahn (2013) results that female labor force participation rates are higher in countries with work-family policies derive mostly from part-time work and it is less likely that these women would be considered for corporate executive positions. In addition, Blau, Ferber and Winkler (2010) show that the U.S. has fewer work-family policies and that women are more likely to be in managerial positions and have less occupational segregation than women in other OECD countries.

because the initial LLSV index has been subject to a range of critical responses on both conceptual and measurement grounds (Coffee, 1999 and 2000; Pagano and Volpin, 2005; Spamann, 2010).

Table 1 presents the culture measures for each country, averaged across the WVS survey waves for which data are available. [19] In the table we highlight the highest and lowest five country values for each cultural measure (including ties) with dark and light highlighting, respectively. The two direct gender variables, Gender-education and Gender-work, indicate a large amount of cross-sectional variation exists in the acceptance of women's education and participation in the workforce. In fact, we find variation between the two indices even for the same country. For example, Japan has the highest score for positive attitudes regarding women's education, but the lowest score for acceptance of women working. In contrast, New Zealand and Ireland post among the highest five scores for acceptance of women's working but are both below the average score for acceptance of women's education. South Africa posts among the lowest five scores for both indices.

In Table 2 we present the correlations between the proxies for country institutions (ADRI and %female labor force participation) and the culture variables. The panel shows many of the cultural measures to be highly correlated with each other. For example, Gender_education and Gender_work have an 82% correlation and Hard work and Individualism have an 86% correlation. However, violence has a very low or no correlation with the other cultural measures, except for corruption.

2.3. Executive compensation sample

In addition to the described measures of cultural norms and institutions, we employ data on executive compensation and firm characteristics. Our compensation, occupation, employee age and tenure data are from Standard and Poor's Capital IQ. We construct the occupational categories

[19] In unreported tests, we separate male answers from female answers to the WVS questions. We find very little differentiation between genders within countries as the answers are correlated at 97% across all countries. These results support the assumption that the cultural measures reflect embedded societal norms.

based on the title, professional function ID, and name variables in Capital IQ. We construct the following 10 occupational categories: CEO, President, Chief Operation Officer (COO), Chief Financial Officer (CFO), Chief Investment Officer, Comptroller or Chief Accounting Officer, Chief Administrator, Chief Legal, Chief Human Resources, and we group those that cannot be categorized into Other.[20] The position of President refers to president of subsidiaries as well as presidents of the firm and, as a result, has the greatest number of executives. We identify women by searching the Capital IQ biography for the words: Ms., Mrs., she, and her. We drop countries that do not have any female executives. We calculate age and tenure using the date of birth and the executive start date.

We also obtain data on firm characteristics from Capital IQ. These basic characteristics include EBITDA divided by assets, long-term debt to assets, cash divided by assets, institutional ownership, and market value. We include in our sample countries for which this data is available for 100 or more firm-years. These constraints result in a sample of 31 countries over the years 2004 to 2016.

The first column in Panel A of Table 3 shows the distribution of observations by country. As is the case with most cross-country samples, the U.S. has the greatest representation with 253,186 executive-year observations. Given the size of the U.S. sample, we also conduct analyses in which we omit the U.S. data and discuss the differences. Canada has the next largest number of observations with 103,707 executive-firm-years followed by Australia (55,343), India (50,909), China (45,578) and the United Kingdom (40,082).

Panel A also reports the representation of women by job title for the top five executive positions for each country. In the United States, women are 2% of the CEOs over the period, a considerable increase relative to the 0.5% reported in Bertrand and Hallock (2001) for data in the

[20] Examples of positions that are included in the Other category are chief technology officer, chief scientific officer, and chief M&A officer.

mid-1990s, and comparable to recent statistics reported by Hill, Upadhayay, and Beekun (2015) and Gupta, Mortal, and Guo (2018).[21]

The percentage of women who are CEOs is highest in Asian countries: Taiwan (9%), Thailand (6.2%), Hong Kong (4.9%), and Singapore (4.1%). In fact, of all countries, Taiwan has the greatest representation of women across the top ranks, at 8.7%. In contrast, Finland, Germany, Japan, and Spain are among the developed countries with few women serving as CEOs or Presidents in our sample.

In Panel B of Table 3 we show, by gender and country, the average total compensation for the CEOs, the top three executives (CFO, COO, and President), and the other executives. According to these univariate results, there exist significant gender gaps in compensation for the top executives. Across all countries the average compensation for male CEOs is $1.81 million compared to $1.41 million for female CEOs. However, the gap could be affected by other factors such as differences in firm size, which we will control for in the multivariate estimation. The table shows an average gender gap for the other top executive positions but with a smaller difference.

Interestingly, across the countries the gender gap is not always defined by men having larger compensation than women. In some countries such as Denmark, and the Netherlands, on average, female CEOs make significantly more than their male counterparts. Similarly, with the top executive category, we find that in the U.S., Ireland, Denmark, and the UK, on average, women are paid significantly more than men.

3. Relation between cultural values and the gender pay gap

In this section we first provide a preliminary analysis of our hypothesis that the executive gender pay gap should be at least partially explained by country social norms. We then present results from a principal component analysis of the data.

[21] The U.S. also has a low percentage of women as President (3%), CFO (5%), COO (3%), and Senior Vice President (2%). We also find that the percentage of women in other executive positions is higher: Comptroller (6%), Chief Administrator (8%), Chief Legal Counsel (10%), and Head of Human Resources (17%).

3.1. Multivariate tests

We first examine the relationship between total compensation (*Compensation*) and each of the cultural variables separately (given their high pairwise correlations as shown in Table 2), while controlling for other factors that can affect compensation. Specifically, we estimate multivariate regressions using the log of compensation as the dependent variable:

$$\log(COMPENSATION)_{t+1,i} = \beta_0 + \beta_1 GenderInd_{i,t} + \beta_2 Culture_{c,t} + \beta_2 Female\ labor\ participation_{c,t} + \beta_3 ADRI_{c,t} + \beta_{4-13} Roles_{i,t} + \beta_{14-20} FirmControls_{i,t} + Year\ FE + IndustryFE + \varepsilon_{i,t}, \quad (1)$$

where *t* represents the year, *i* represents the firm, and *c* represents the country. The primary independent variables of interest include an indicator variable for whether the executive is a woman, the cultural variables of interest, and interaction terms between the female executive indicator and each cultural variable. We also include a country's percentage of the female labor force participation and ADRI, the variables that control for the country's institutions and legal environment.

The regressions also include several other control variables, which to save space are not reported in the tables. We include the executive's age and tenure because previous research shows that age and tenure are positively correlated with compensation (Ryan and Wiggins, 2001; Graham et al, 2012; Guvenen, Kaplan, and Song, 2020).[22] In addition, we recognize that men and women may have different timelines and effects of starting families and their age at first childbirth. Thus we control for age, which could affect wage differences. Compensation is also a function of the executive's job responsibilities, accordingly, we include a job title indicator variable, to control for wage effects related to differences in occupations, for example, the difference between being a chief financial officer and chief human resources officer.[23] While the cultural reasons for gender

[22] We find that across countries, the average age for male CEOs is 53.6 and for women CEOs is 51.3 and this pattern for age differences is similar across the other executive positions.

[23] The job title indicator variables are CEO, President, CFO, COO, SVP, Chief Investment Officer, Comptroller, Chief Administrative Officer, Chief Legal Officer, and Chief HR Officer.

segregation by occupation and its effect on the gender compensation gap is an important consideration, we focus on income differences within occupations to get a clear understanding of the pay differences within a specific executive role. Our goal is to assess the role of culture on the gender pay gap, not the differences in compensation across occupations. The control variables additionally include firm characteristics that have been found to be associated with compensation such as firm size, EBITDA/assets, debt/assets, institutional ownership, and total returns. Finally, we include year and industry (measured by two-digit SIC code) fixed effects to absorb variation from increases in compensation and gender representation over time and across industries. Standard errors are clustered by country.

Table 4 present a series of models based on the measures of culture. Panels A and B use measures of culture based on the WVS wave directly preceding the measurement of compensation and other variables. Panel C uses the values of our cultural norms in 1980, preceding the start of our sample by more than 20 years, to address any possible feedback and endogeneity effects of female executives on culture. Model 1 presents the baseline regression in which we do not include the cultural measures – we only include the gender indicator with the control variables, job title indicators, firm characteristics, country, year and industry fixed effect variables, and country fixed effects. Since the gender variable is equal to one if the executive is a woman and zero otherwise, the negative coefficient indicates that female executives receive less compensation in general. In fact, the average gender gap is not small as the coefficient indicates an average gender pay gap of 16.6% across all countries and executive positions. In Model 2 of Panel A, we present the same model except that rather than country fixed effects, we add two country institutional characteristics, the female labor force participation and the proxy for shareholder rights (ADRI). The coefficient on the gender indicator does not change much – there still exists a 15.6% gender gap in executive compensation. The coefficient on %female labor force participation shows that executive compensation tends to be greater in those societies in which women constitute a greater

share of the working population.[24] The coefficient on shareholder rights (ADRI) is negative, which implies that countries with better legal environments for shareholders, have lower compensation for executives in general.

The remaining models in Panels A and B of Table 4 have the same specification as Model 2 of Panel A with the exception that the models include each culture measure independently in order to capture its relation to overall compensation (for both men and women). The table also includes an interaction term between the culture variable and the gender indicator and its marginal effect on the compensation of women. Panel A focuses on the first set of culture variables—the variables that include views on women such as the women's right to work and education, religious beliefs, violence and intolerance. We find executive compensation to be significantly related to each of these cultural variables on its own and when interacted with the female gender indicator.

Model 3 of Panel A suggests that in societies that hold more positive views towards women's education, overall pay is higher, and the gender gap is reduced (as indicated by the positive coefficient on the interaction term combined with the negative coefficient on the gender indicator variable). Similarly, according to Model 4, in societies in which women's workforce participation is more valued, overall pay is less, but again the gender gap is reduced. The results for Models 4 and 5, which show the relations with the Religion and Violence culture variables, are strikingly different. For both variables, the implication is that in societies with these cultural norms, overall executive pay is lower, and the gender executive pay gap is higher. The significance of the results for the acceptability of violence towards women variable is noteworthy since the most consistent predictor of acceptance of violence towards women is holding more traditional gender-role attitudes.[25] Unlike the other gender attitudes, it does not have to do with the division of labor (Gender_work and Gender_education), and deals most directly with attitudes of male superiority

[24] The variable, %female labor participation has a significantly positive coefficient in all models except when gender education is included as the culture variable. These results conform to the intuition that the two independent variables (female labor participation and the acceptance of the importance of women being educated) would be related (and they have a correlation of 0.36 as shown in Table 2).

[25] See Flood and Pease (2006) in their review of the literature starting from 1980.

towards women (support for male authoritarianism, aggressiveness, superiority to women, and may include hostility to women). [26]

Panel B includes the other culture variables. Model 1 of Panel B is identical to that in Panel A to allow for comparison of the baseline regression results to those of the additional cultural variables. Model 2 reports the results for intolerance, which are similar to those of the religion and violence culture variables. In societies with more intolerance, executive compensation is lower overall, and it is even lower for women executives. In contrast, Models 3 and 4 of Panel B demonstrate that in societies in which hard work and individualism are believed to be important, executive compensation in general is higher. These results conform with intuition that in societies with such beliefs and attitudes, the executives would be paid more for their efforts. The results also show thought that executive compensation generated in societies with these values have a dramatically reduced gender gap.

Model 5 indicates that greater acceptance of corruption is associated with lower compensation levels for both genders, but it is not associated with an executive gender pay gap. Finally, Model 6 shows that trust is associated with higher compensation levels, but also a marginally higher gender pay gap.

As discussed earlier, one issue with our analyses is the potential for endogeneity and particularly reverse causality. Given that the employment of women in top executive positions is not likely to change cultural attitudes of average country inhabitants within a few years, endogeneity arising from reverse causality should not be a concern. Nonetheless, in Table 4 Panel C, we present results using the cultural variables measured in 1980 (which is 20 years prior to our sample) to address this potential endogeneity issue. We find that our results remain qualitatively similar, which shows that endogeneity from reverse causality is not a concern.

Overall, the results in Table 4 are consistent with our hypothesis that a population's general cultural beliefs and attitudes towards women are associated with the gender pay gap, even for

[26] Note that attitudes of superiority do not have to include attitudes of hostility.

women in the upper echelon of the workforce. The cultural norms have effects in both directions: the gender gap is lessened, or even potentially reversed, when the population believes that women are entitled to the same education as men, women in the work force are viewed favorably, hard work and individualism are valued. On the other hand, the gender gap is greater, i.e., the compensation for women executives is significantly less than that of men in the same role, when populations have more dogmatic religious beliefs, violence against women is deemed to be okay, and there exists more intolerance. Finally, in countries that rank higher in trust, women are paid less, which may reflect that trust is important in the context of other values, as the subsequent results suggest.

Given that U.S. firms comprise approximately 50% of the sample firms, in Appendix Table A2, we repeat the regression analyses in Table 4, excluding U.S. firms. We find the results regarding the gender gap to be qualitatively consistent across the regressions with one exception. The coefficient on the interaction term between Corruption and Gender becomes significantly negative when the U.S. is excluded. The implication is that in countries where corruption is more acceptable, female executives are paid less relative to their male counterparts.

3.2. Reverse causality

We conduct additional tests using dominant religious denomination as an alternative proxy for culture using the same base estimation as shown in Equation (1). Because many of the cultural norms can be influenced by the dominant religion in a country, statistical significance on this additional general cultural proxy would lend support that our results are not suffering from reverse causality.[27]

[27] We would have liked to employ the use of the plough in early societies as Alesina, Guilliano, and Nunn (2013) show that use of the plough has persistent effects on gender roles. However, as they point out, there exists lack of variation of traditional plough use within Europe and Western nations, which constitute the majority of our sample for which executive compensation data is available. Consequently, we are unable to employ this variable.

Guiso, Sapienza, and Zingales (2003) document a significant relationship between religious denominations (Buddhist, Catholic, Hindu, Jewish, Muslim, Protestant), religious intensity (attendance of religious services), and many of the attitudes that comprise our cultural indices. They conclude that the attitudes of an individual who identifies as an active participant in the dominant religion relate to cultural norms.[28] Using the data on country population religious affiliation in Table 1 of Guiso, Sapienza and Zingales (2003, p.235-237), we create an indicator variable, *Protestant is major religion*, which is equal to one if the dominant religion in a country is Protestant. For the countries in our sample, Protestant is the dominant religion in 31 percent, Catholic in 62 percent, and there are no other dominant religions for our sample countries.[29]

We report these results Appendix Table A3. The results show that compared to all other religions, pay is higher for Protestant dominant countries and the gender pay gap is larger.

3.3. Principal component analysis

We noted earlier that because the cultural measures are highly correlated (as shown in Table 2), we do not include the variables in the regressions at the same time. In this section, we conduct a principal component analysis in order to capture the effects of multiple cultural measures in the relation to the gender executive compensation gap. Accordingly, we first perform a varimax-rotated principal component analysis. In Table 5 we report the weightings of the factors on each of the institutional measures and highlight the significant components of each factor. The factors are latent unobservable variables and capture similarities between cultural norms. Factor one (F1) loads on the cultural norms of Religion, Violence, Intolerance, and Corruption; Factor 2 (F2) loads on the gender attitudes of Gender_education and Gender_work; and Factor 3 (F3) loads on the more general economy-related cultural attitudes of Hardwork, Individualism, and Trust.[30]

[28] Dominant religion is defined as the religion with the greatest percentage of affiliates in a country.
[29] We note that Guiso et. al.'s (2003) results are driven by people who attend religious services more often, which is captured in our main cultural variable measure of religious beliefs.
[30] The factor loadings are the correlations between the factors and the variables. For example, the correlation between the intolerance and F1 is about 0.78. Similarly, the correlation between Hardwork and F1 is only 0.22.

Given our previous hypotheses regarding the associations of these cultural attitudes with the gender gap, we expect that *F1* (Religion, Violence, Intolerance, and Corruption) should have a positive relation with the gender gap. That is, the gender pay gap will be greater in societies with more dogmatic religious beliefs, where violence against women is deemed to be acceptable, and which have more intolerance and corruption. We expect that F2 (Gender_education and Gender_work) should show a negative relationship with the gender gap as the gap should be smaller when a population believes that women are entitled to education and views women in the workplace more positively. Finally, if hard work and individualism have greater effects than trust in this factor, we expect that F3 (Hardwork, Individualism, and Trust) will also have a negative relationship with the gender gap. That is, the pay gap should be less when the degree to which autonomy or the individual is more appreciated, and hard work is considered important for success relative to networks. These hypotheses are also supported by the results on the individual variables reported in Table 4.

In Table 6 we repeat the regressions from Table 4 with the same control variables but use the factors from the principal component analysis rather than the individual cultural measures.[31] We report results for only the variables of interest in this analysis: the gender indicator, the factors and the interaction terms between gender and the factors. The results in which we include all executive positions are presented in Models 1, 2, 3 and 4, where in Models 1-3, we run the regression with each factor independently and in Model 4 we include all three factors in the regression. In Models 5, 6, and 7 we repeat the regressions for the subsamples: CEO only, Top 3 executives (other than CEO), and other executives. In each model, the coefficient on gender indicates the overall relationship between women executives and compensation, the coefficient of the factor variable indicates the relationship between that factor and compensation (for both female and male executives), and the interaction variables indicate the relations between each of the factors and the differential between male and female compensation.

[31] The control variables include indicators for each of the executive roles, the executive's age and tenure, firm size, EBITDA/assets, debt/assets, institutional ownership, and total returns, and industry and year fixed effects.

Across Models 1-4, the coefficient on gender is negative and significant, demonstrating that, in general, female executives receive significantly lower compensation than do their male counterparts. Model 1 shows that executive compensation loads negatively on factor F1 (Religion, Intolerance, Violence, Corruption). Thus, in societies in which these cultural beliefs and attitudes are more prevalent, the results suggest lower compensation for all executives. In addition, the interaction term between F1 and gender suggests that the reduction in compensation is even greater for women executives in the countries that rank higher in these dimensions. The comparison between the F1 results, the F2 (Gender_education and Gender_work) results shown in Model 2, and the F3 (Hardwork, Individualism and Trust) results shown in Model 3 are striking. The level of executive compensation in general is positively related, and the gender gap is negatively related, to the cultural norms reflected in F2 and F3. These results support the hypotheses that overall compensation is greater, and the gender gap is smaller in societies that believe women are entitled to equal education, that value women's roles in the workplace, hard work and individualism, and where trust is higher.

In Model 4, we include all three factors in the same regression and find the results to remain basically consistent with those in Models 1-3 in which we include each factor independently. The coefficient on gender remains significantly negative, again indicating a gender pay gap for female executives across all societies. As before, the factors have different relations with overall compensation for men and women and they remain significant in the same direction. That is the coefficient on F1 is negative and significant (lower compensation for all executives) and the coefficients on F2 and F3 are positive and significant (greater compensation for all executives). In addition, the interaction terms also remain quite similar to Models 1 through 3. The one difference is for the interaction term between gender and F1, which becomes insignificant when all factors are included, indicating the indirect effects may not have the same strength in the presence of the direct effects. For both F2 and F3, the coefficients on the interaction variables between the factor and gender are positive and significant, suggesting that positive values for these cultural factors are associated with less of a gender pay gap. Overall, these results appear to support

Wollstonecraft's assertion back in the 1700s that improving women's education and positive attitudes toward women benefits both women and men.

In Models 5, 6 and 7 of Table 6 we again include all factors as in Models 3 and 4 but break our sample out into separate groups of executives to examine whether the results hold for different executive level positions: CEOs only, the top 3 executives other than CEOs, and all other executives. The results are generally similar to the results from Model 4 in which we include all executives, but with two major exceptions. First, in the CEOs only regression (Model 5) gender and the interaction term between gender and F1 are insignificant while the interaction terms between gender and F2 and F3 remain significantly positive. Thus, once we include cultural norms, the general gender pay gap at the CEO level disappears. This finding of no gender compensation gap for CEOs could reflect the greater transparency and attention directed toward CEO compensation. The lack of significance of the interaction between Gender and F1 suggests that cultural traits that are related to inequities, such as Corruption or Violence, do not directly affect the differences between men and women in CEO compensation. Again, a potential explanation is a spotlight on the CEO role, which may decrease discrimination from beliefs and attitudes based on inequities. Additionally, a labor market rate for CEOs (as compared to peer companies) exists, leading to less discrepancy in setting pay. However, F1 has a particularly negative association with compensation for other executives.

Taken together the results suggest that cultural norms are related to total compensation for both men and women executives, but importantly, these norms are also associated with compensation differences between genders. We find a significant gender pay gap across all executive roles, and once we include cultural values, we do not find a gender pay gap at the CEO level. Both men and women receive less compensation, and the gender compensation gap is larger when societies are more accepting of corruption, intolerance and dogmatic religion. Men and women receive greater compensation and there is less of a gender pay gap in societies that believe in equal education for men and women, where women are more accepted in the workplace, hard work and individualism are more valued and people are more trusting.

3.4. Executive age and child-rearing interruptions

A potential question about our results is whether we should consider the possible effects of child-rearing, that is child-rearing could affect the executive gender pay gap and whether there exists a lower likelihood of women being in higher-level positions and receiving higher wages. For example, Moen and Smith (1986) show that many women drop out of the full-time workforce during their childbearing years. Absence from the workforce for a period would not only affect the likelihood of women being in executive positions, but would also affect women's tenure, where our measure of tenure is relative to the person's start date at the firm as opposed to their start date in a specific position. However, if the average age of top executives is beyond average childbearing age, any negative effects from new children are less likely to affect women in this population.[32] Pregnancy and childbirth always, and child-rearing usually, fall more on women. Research has found that women with children (or proxied by the experience of women of child-bearing age) tend to be disproportionately affected in their career performance than are men with children (or of the same age).[33] Bertrand, Goldin and Katz (2010) study the careers of MBAs from a top U.S. business school and find that gender pay gap increases over time, with evidence that differences in career interruptions and lower working hours due to motherhood are significant factors in the pay gap. Similarly, Keloharju, Knupfer and Tag (2022) follow the career progression of cohorts of business, economics, and engineering graduates in Sweden. They find that the gender gap arises within the five years of the first child, when women are more likely to work shorter hours and be absent from work more often. Their data indicates that this gender gap remains throughout their careers and thus, contributes to the lack of women at the executive level. Our data focuses on women who have achieved that upper level. Because these female executives are positively

[32] For example, in their study of married working women in the U.S., Juhn and McCue (2016) find that the wage gap for married women with young children is 35 percent lower than married women without children and 15 percent lower than married women with school aged children.

[33] See, for example, the experience of finance and economics academics (Adams and Lowry, 2022a and CSWEP annual reports, https://www.aeaweb.org/about-aea/committees/cswep/about/survey/annual-reports), and particularly during the COVID-19 pandemic, e.g., Kruger, Maturana and Nickerson (2020), Barber, Jiang, Morse, Puri, Tookes and Werner (2021), and Deryugina, Shurchkov and Stearns (2021).

selected, we would not expect childbirth to have had as negative an effect on this set of women as for the average working woman.

To estimate whether child-rearing may affect our results, we estimate the age at which the women executives may have had children. Since we do not have data on when the executives in our sample start families, or even if they have families, our estimate depends on the executive's age, adjusted by the average age at first birth in the country.[34] We collect mean age at first birth by country from the OECD and calculate age minus average age at first birth.[35] When adjusted age is further from zero, it becomes less likely that the person is just starting a family. We include adjusted age instead of age in the regressions and present the results in Panel B of Table 6. We also include the interaction of adjusted age and the female indicator. The coefficients on adjusted age are significantly positive, as are the interactions. This suggests that the pay gap decreases in countries where women have children later in their careers. Focusing on the principal component analysis, we find that results hold with this alternate estimation.

4. Oaxaca-Blinder decomposition analysis

In order to understand how much of the gender gap can be explained by the cultural and other characteristic variables, we perform an Oaxaca-Blinder decomposition analysis on our full sample of executive years (Oaxaca, 1973; Blinder 1973). This approach allows us to decompose the overall gender pay gap into a portion that is due to observable differences based on the control variables (the Endowment effect), and a portion that is unexplained (Discrimination effect), with the simplifying assumption that the male wage structure is the appropriate reference wage structure. Although some previous research has used this decomposition method for studying the gender pay gap (e.g., Djurdjevic and Radyakin, 2007), the researchers do not typically include a measure of taste-based discrimination in their models, which contrasts with our specifications. The

[34] Although this approach delivers a very rough proxy, it does provide information regarding the potential effects of child-rearing.
[35] See http://www.oecd.org/els/family/database.htm

Oaxaca-Blinder decomposition analyzes wage differentials between male and female executives by explaining whether differences in wages according to gender are due to variations in observable, measurable characteristics, or alternatively, due to discrimination using the following estimation:

$$Wm_{i,t+1} - Wf_{i,t+1} = [Xf_{i,t}\,(\beta m - \beta f)] + [(Xm_{i,t} - Xf_{i,t})\,\beta m\,] \quad (2),$$

where $Wm_{i,t+1}$ is the log of total compensation of men and $Wf_{i,t+1}$ is the log of total compensation of women. The first term in brackets represents the measure of discrimination from unexplained factors. Generally, in gender pay research the estimations of the gender pay gap are explained by covariates that do not include cultural norms, with the unexplained portion of the gender compensation gap considered as indicating discrimination. This unexplained portion can either be due to unmeasured differences (like hours worked) or may be due to discrimination. The second term in brackets is the explained difference in male and female wages due to differences in measured mean X's (control variables from Equation (1)) for men and women.

In conducting the Oaxaca-Blinder decomposition, we first find the difference in log pay between men and women, i.e., the log pay gap. We next add the control variables, not including country or culture. The included controls are the executive role indicators, firm characteristics, age, tenure, female labor force participation, ADRI, year, and industry fixed effects. Finally, we add the cultural factors, and the individual cultural characteristics to incrementally show how much each contributes to explaining the gender pay gap.

We present the results of the Oaxaca-Blinder decomposition in Table 7. The log of the pay difference between men and women is 0.535 and can basically be considered a univariate difference across all executives in our sample. The results in the first row of Table 7 use the baseline model without country or cultural controls (but includes the other covariates). Using the distribution of the male executives as the reference distribution, the decomposition shows that the basic covariates explain 82.4% of the log pay gap, while the log of the unexplained part is equal to 0.094. This leaves 17.6% of the log gap unexplained (equals 0.094 divided by 0.535). Most of the log differences in the gender gap can be attributed to our control variables. The other part of the log wage difference is unexplained.

We further the analysis by adding country and cultural variables to determine their contribution to the log pay gap, and the reduction in the unexplained differences. When we include country indicators, the log unexplained gap reduces to 0.06. Next, we include the cultural factors. Recall that *F1* loads on the cultural variables *Religion, Violence, Intolerance,* and *Corruption*; *F2* loads on *Gender_education* and *Gender_work*; and *F3* loads on *Hardwork, Individualism, and Trust*. Including the three cultural factors, the log unexplained portion of the total compensation gap drops to 0.028 (leaving only 5.2% of the wage gap unexplained due to discrimination). This unexplained portion is no longer statistically significant. The results show that cultural norms can explain a significant part of the gender compensation gap – these norms appear to affect compensation even amongst highly skilled executives in what are presumably competitive markets.

We re-run the Oaxaca-Blinder decomposition separately for the CEOs, Top 3 executives, and other executives, and present the results in Panel B of Table 7. The log of CEOs, Top 3, and other executives pay gaps are 0.243, 0.465, and 0.689, respectively. Using just the base estimation, without controlling for country or culture, the proportions of each gender gap that are unexplained are 58% for CEOs, 48% for top executives and 49.2% for other executives.[36] These unexplained portions of the gap act as our baseline so we can better understand how specific cultural attributes help to reduce the pay differential driven by discrimination (i.e., reduce the unexplained portion of the gap). To get a clearer understanding of how much each of the cultural variables contributes to explaining the (unconditional) unexplained pay gap, we conduct the Oaxaca-Blinder decomposition analysis by including each cultural measure separately and report the percent of the gap that is unexplained. We also conduct this decomposition analysis using all three factors together.

Including the culture measures individually, we find that *Gender_education and Gender_work* have high explanatory power for CEOs and other executives. Including

[36] Calculated as Unexplained divided by total gap: 0.141 divided by .243 for CEOs; 0.224 divided by .465 for Top 3; and 0.339 divided by 0.689 for other executives.

Gender_education, the unexplained portion of the gap drops from 58% to 34% for CEOs. Similarly, the inclusion of *Gender_work* reduces the unexplained portion of the gap from 58% to 33% for CEOs. These results are intuitive in that they suggest that in societies where women's education and careers are promoted, the pay differentials due to discrimination are smaller. Further, we find when we use the three factors from the principal component analysis, the unexplained portions reduce from 58% to 7.4% for CEOs, 48% to 21.7% for the Top 3 Executives, and 49.2% to 39.1% for the Other Executives.

As in Table 4, the strongest explanatory power derives from the cultural measure, *Violence*, and it has stronger power than the combined factors. This may pick up an attitude that a woman is considered less of a person than a man. In this way, *Violence* is itself a summary factor which provides stronger evidence that tastes can affect the gender-pay gap. We also find that when including religion, intolerance, or trust, the unexplained portion of the pay gap increases for CEOs. In other words, in cultures that have strong religious beliefs, high intolerance, or high trust, there exist more unexplained pay differences. Moreover, the findings provide strong evidence that culture does not unilaterally affect all groups and levels of executives in the same way. For instance, aside from attitudes towards violence, the cultural attitudes towards trust, and gender equality in the workplace reduces the portion of unexplained pay for the other executive and the top 3 executive groups. The evidence shows that the cultural variables explain much of the gender gap that is not explained by other variables.

5. Quasi-natural experiments – Changes in social policies (paternity leave laws and board diversity laws)

To achieve better identification for testing our hypotheses, we conduct two quasi-natural experiments. Specifically, we examine changes in the gender executive pay gap around the introduction of new legislation related to gender issues: paternity leave laws and board diversity laws.

Many countries have adopted laws regulating work and compensation after childbirth for both men and women. In particular, paternity leave laws have been argued to "help break down traditional social attitudes, resulting in greater equality for both men and women…" (International Labour Office, p. 64). Olivetti and Petrongolo (2017) state that proponents of family policies (government mandates and firm policies) argue that such policies contribute to the goals of gender equity (and child development) and alter social norms regarding gender roles.[37]

We use the introduction of paternity leave laws to generate exogenous variation in the views towards women in the workforce, particularly executive positions. We expect these laws should help reduce the gender gap in executive compensation if their initiation helps to change social attitudes toward women's role in the workplace or if their initiation reflects a partial change in these attitudes.[38]

In addition, some governments have begun to take actions that more directly influence decision making at the top of the firm through laws focused on achieving gender diversity on corporate boards. Generally, these laws require that firms appoint a specified fraction of women to their boards or have a target to do so. For example, Spain's Equality law requires board representation of a minimum of 40% and maximum of 60% of women, while Poland's law targets that 30% of a board be composed of female directors. We expect that the increase in women on boards mandated by law would imply that women be paid as much as men in the same position and would reduce the gender compensation gap. However, the effects of this law are uncertain due to differing requirements across countries and the evidence that mandating more women on boards in one country has not resulted in improved circumstances for women in those companies (Bertrand, Black, Jensen, and Lleres-Muney, 2019).

In our analysis, we employ the first proposal date of the laws. The fact that these laws are proposed may be an indication of a possible shift in attitudes toward women's role in the workforce

[37] Olivetti and Petrongolo (2017) point out however that it is difficult to establish the causal impact of these policies because of the complexity of the legislation and the challenge in determining causality.
[38] See, for example, Bertrand (2020) or Inglehart, Ponarin and Inglehart (2017).

and corporate leadership. We test for effects by regressing compensation on an indicator variable equal to one if the observation is at least one year after the introduction of paternity leave labor laws (*Paternity leave*) or the introduction of board diversity laws (*Board diversity*). We also include an interaction term between the *Gender* indicator and *Paternity leave* or *Board diversity*. Regressions include year, industry, and country fixed effects with standard errors clustered by country.[39] Our estimated model is as follows:

$$\log(COMPENSATION)_{t+1,i} = \beta_0 + \beta_1 GenderInd_{i,t} + \beta_2 Law\ Proposal_{c,t}$$
$$+\beta_3 GenderInd_{i,t} * Law\ Proposal_{c,t} + Year\ FE + Industry\ FE + CountryFE +$$
$$\varepsilon_{i,t} \qquad (3),$$

where Law Proposal is either *Paternity leave* or *Board diversity.* Table 8 presents the regression results for the paternity leave laws. We only include developed countries in our sample because the evidence to date on paternity leave laws has focused on developed countries.[40] Model 1 reports the results for the full sample of developed countries (even those countries that have not yet introduced paternity leave laws).[41] In this sample, the coefficient on the *Gender* indicator is significantly negative, thus, the executive gender pay gap exists in general for these countries, while the coefficient on the interaction term between the *Gender* indicator and *Paternity leave* is positive and significant. We separate the sample based on countries where mothers delay childbirth as proxied by the median age at first birth (Model 3).[42] We find the interaction term between post-paternity leave law and the gender indicator is negative and significant when women bear children at an age below the median age in this sample, and positive and significant where women bear children later. These results are consistent with the idea that in those cases in which women delay childbirth, they may have climbed the corporate ladder higher prior to the birth, and thus, find it

[39] Spamann (2020) shows that clustering of treatment firms at the state or country level leads to over-rejection of the null hypothesis. To ensure that our results and conclusions are not driven by these clustering issues, we cluster at the firm level in robustness tests and find qualitatively similar results available upon request.
[40] See, for example, Olivetti and Petrongolo (2017).
[41] Countries that did not introduce paternity laws within our sample period include Canada, Germany, Japan, Switzerland, and the US.
[42] We find the median age of first birth across all countries and then split the sample by whether a country is above or below the median.

less costly to return to work (because they will be more skilled). In addition, we estimate the regressions on the subsample of countries that propose paternity laws during our sample period (Models, 4, 5, and 6) to be sure the results are not due to developed countries in which paternity leave laws have not been proposed. The results remain consistent.

We present results for board diversity laws and the compensation gap in Table 9. Model 1 estimates the determinants of compensation including an indicator variable for the proposal of a board diversity law. Overall, the pay gap still exists after the proposal and total executive compensation. However, in Model 2, we add an interaction variable for gender and board diversity laws. The results in Model 2 show that the coefficient on the interaction variable is positive and significant suggesting that the proposal of the law reduces the gender compensation gap. These results are consistent with Matsa and Miller (2011) and Carter, Franco, and Gine (2017) who show a reduction in the executive wage gap when more women are on the board of directors.[43]

6. Conclusion

Despite changes in laws and the global commitments to reduce pay differentials between men and women, the narrowing of the gender pay gap has leveled off since the mid-1990s (Blau and Kahn (2017) provide a survey of the evidence and their own results).[44] Blau and Kahn suggest reasons for the cross-sectional and time-series gender pay gap. In this research, we examine a cross-country sample of top executives' compensation to understand the role of culture in explaining the gender wage gap. This market includes highly skilled people and is a competitive market, where we expect competition to reduce the gender compensation gap. In testing for the determinants of compensation, we find that the compensation gap is both country and executive-role specific and that a country's cultural attributes are important in explaining the gap. Across

[43] However, Bertrand, et al (2019) find little discernible effect of the board quota law in Norway on women other than they find that gender gaps in board member compensation were reduced.

[44] See, for example, the 2030 UN Agenda for Sustainable Development highlights the goal by world leaders to "achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value "(Sustainable Development Goal (SDG) 8, target 8.5.) and "to achieve gender equality and empower all women and girls". http://indicators.report/targets/8-5/. Accessed December 5, 2018.

countries and roles, women are generally compensated less than men, but the difference appears to be smallest at the highest executive level (CEO). We find that the gender pay gap and executive compensation in general are related to a society's cultural attributes. In particular, the gender pay gap appears to be larger in populations that have importance of religious beliefs and greater acceptance of violence toward women, intolerance and corruption. The gap appears to be smaller in societies with more positive views on women's education, attitudes about women working, attitudes regarding the value of hard work, individualism and the degree of trust in the society. Thus, our empirical results suggest that although certain misogynistic attitudes, e.g., acceptance of violence against women, and other intolerant beliefs are related to a larger compensation gap, the gap decreases as positive views of hard work and women increase. When we include cultural attitudes, and after accounting for other factors such as role, tenure and firm characteristics, we increase the explanatory power of the model for the executive gender compensation gap from 44% to 95%. We also show that if there is an exogenous shock to the workforce that changes (or reflects changes in) cultural attitudes towards a woman's role, the compensation gender gap decreases.

Understanding why compensation differences exist and determining prescriptions to remedy the compensation gap not only benefit women but also benefit the companies and the societies in which they work. The findings from this study help toward a better understanding of how cultural norms are related to a compensation gender gap (and overall compensation) in the highest levels of the labor market.

References

Adams, R., Funk, P. 2021. Beyond the glass ceiling: does gender matter? *Management Science* 58, 219-235.

Adams, R., Licht, A., Sagiv. L. 2011. Shareholders, stakeholders: How do directors decide? *Strategic Management Journal* 32, 1331–1355.

Adams, R., Lowry, M. 2022a. The culture of the finance profession: Evidence from the 2020/2021 American Finance Association Survey. Report for the American Finance Association. https://afajof.org/wp-content/uploads/Climate-Report-Survey.pdf

Adams, R., Lowry, M. 2022b. What's good for women is good for science: Evidence from the American Finance Association." *Review of Corporate Finance Studies*, forthcoming.

Ahern, K., Daminelli, D., Fracassi, C. 2015. Lost in translation? The effect of cultural values of mergers around the world. *Journal of Financial Economics* 117, 165–189.

Aizer, A. 2010. The gender wage gap and domestic violence. *American Economic Review* 100, 1847-1859.

Alesina, A., Giuliano, P., Nunn, N. 2013. On the origins of gender roles: Women and the plough. *Quarterly Journal of Economics* 128, 469–530.

Arrow, K. J. 1973. The theory of discrimination. In Ashenfelter, Orley, Rees, Albert, eds., *Discrimination in Labor Markets*. Princeton: Princeton University Press, 3–33.

Barber, B., Jiang, W., Morse, A., Puri, M., Tookes, H., Werner, I. 2021. What explains differences in finance research productivity during the pandemic? *Journal of Finance* 76, 1655-1697.

Becker, G. S. 1957. *The Economics of Discrimination.* Chicago. University of Chicago.

Bertrand, M. 2020. Richard T. Ely Lecture: Gender in the Twenty-First Century. *AEA Papers and Proceedings* 110, 1-24.

Bertrand, M., Black, S., Jensen, S., Lleras-Muney, A. 2019. Breaking the glass ceiling: The effect of board quotas on female labour market outcomes in Norway. *Review of Economic Studies* 86, 191-239.

Bertrand, M., C. Goldin, L. F. Katz. 2010. Dynamics of the gender gap for young professionals in the financial and corporate sectors," *American Economic Journal: Applied Economics* 2, 228-255.

Bertrand, M., Hallock, K.F., 2001. The gender gap in top corporate jobs. *ILR Review* 55, .3-21.

Bisin, A., T. Verdier. 2000. Beyond the melting pot': Cultural transmission, marriage and the evolution of ethnic and religious traits. *Quarterly Journal of Economics* 115, 551-583.

Blau, F., Ferber, M., Winkler, A.E. 2010. Differences in occupations and earnings: the role of labor market discrimination. *The Economics of Women, Men and Work*. New Jersey: Prentice-Hall, 228-279.

Blau, F.D., Kahn, L.M. 1992. The gender earnings gap: learning from international comparisons. *American Economic Review* 82, 533-538.

Blau, F.D., Kahn, L.M. 1997. Swimming upstream: Trends in the gender wage differential in the 1980s. *Journal of Labor Economics* 15, 1-42.

Blau, F.D., Kahn, L.M. 2000. Gender differences in pay. *Journal of Economic Perspectives* 14, 75-99.

Blau, F.D., Kahn, L.M. 2003. Understanding international differences in the gender pay gap. *Journal of Labor Economics* 21, 106-144.

Blau, F.D., Kahn, L.M. 2013. Female labor supply: Why is the United States falling behind? *American Economic Review* 103, 251-56.

Blau, F. D., L. Kahn. 2017. The gender wage gap: Extent, trends, and explanations. *Journal of Economic Literature* 55, 789-865.

Blinder, A. S. 1973. Wage discrimination: Reduced form and structural estimates. *The Journal of Human Resources* 8, 436-455.

Burns, N., Minnick, K., Starks, L. 2017. CEO tournaments: A cross-country analysis of causes, cultural influences, and consequences. *Journal of Financial and Quantitative Analysis*, 52, 519-551.

Carter, M., Franco, F. Gine, M. 2016. Executive gender pay gaps: The roles of female risk aversion and board representation. *Contemporary Accounting Research* 34

Coffee Jr, J.C. 1999, The future as history: The prospects for global convergence in corporate governance and its implications. *Northwestern University Law Review* 93, 641-708.

Coffee Jr, J.C. 2000. Do norms matter--A cross-country evaluation. *University of Pennsylvania Law Rev*iew 149, 2151-2177.

Deryugina, T., Shurchkov, O., Stearns, J. 2021. COVID-19 disruptions disproportionately affect female academics. *AEA Papers and Proceedings* 111: 164-168.

Ewens, M., Townsend, R. 2020. Are early-stage investors biased against women? *Journal of Financial Economics* 135, 653-677.

Field, L.C., Souther, M.E., Yore, A.S. 2020. At the table but cannot break through the glass ceiling: Board leadership positions elude diverse directors. *Journal of Financial Economics* 137, 787-814.

Flood, M., Pease, B. 2006. *The Factors Influencing Community Attitudes in Relation to Violence Against Women: A Critical Review of the Literature*. Melbourne, Australia: Victorian Health Promotion Foundation.

Flory, J. A., Gneezy, U., Leonard, K. L, List, J. A. 2018. Gender, age, and competition: A disappearing gap? *Journal of Economic Behavior and Organization* 150, 256-276.

Flory, J. A., Leibbrandt, A., List, J. A. 2015. Do competitive workplaces deter female workers? A large-scale natural field experiment on job entry decisions. *The Review of Economic Studies* 82, 122-155.

Fortin, N.M., 2005. Gender role attitudes and the labour-market outcomes of women across OECD countries. *Oxford Review of Economic Policy* 21, 416-438.

Francis, B., Hasan, I., Yinjie (Victor) Shen, Qiang Wu. 2021. Do activist hedge funds target female CEOs? The role of CEO gender in hedge fund activism. *Journal of Financial Economics* 141, 372-393.

Gayle, G.L., Golan, L., Miller, R.A. 2012. Gender differences in executive compensation and job mobility. *Journal of Labor Economics* 30, 829-872.

Goldin, C. 2014. A grand gender convergence: Its last chapter. *American Economic Review* 104, 1091-1119.

Gompers, P., Calder-Wang, S. 2021. And the children shall lead: Gender diversity and performance in venture capital. *Journal of Financial Economics* 142, 1-22.

Graham, J., Li, S., Qiu, J. 2012. Managerial attributes and executive compensation. *The Review of Financial Studies*, 25, 144–186.

Granato, J., Inglehart, R., Leblang, D. 1996. The effect of cultural values on economic development: theory, hypotheses, and some empirical tests. *American Journal of Political Science* 40, 607-631.

Guiso, L., Monte, F., Sapienza, P., Zingales, L. 2008. Culture, gender and math. *Science* 320, 1164-1165.

Guiso, L., Sapienza, P., Zingales, L. 2003. People's opium? Religion and economic attitudes. *Journal of Monetary Economics* 50, 225–82.

Guiso, L., Sapienza, P., Zingales, L. 2004. The role of social capital in financial development. *American Economic Review* 94, 526-56.

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

Guiso, L., Sapienza, P., Zingales, L. 2008. Trusting the stock market. *Journal of Finance* 63, 2557-2600.

Gupta, V.K., Mortal, S.C., Guo, X. 2018. Revisiting the gender gap in CEO compensation: Replication and extension of Hill, Upadhyay, and Beekun's (2015) work on CEO gender pay gap. *Strategic Management Journal* 39, 2036-2050.

Guvenen, F., Kaplan, G., Song, J. 2020. The glass ceiling and the paper floor: Changing gender composition of top earners since the 1980s. *NBER Macroeconomics Annual* 35, 309-373.

Hill, A.D., Upadhyay, A.D., Beekun, R.I. 2015. Do female and ethnically diverse executives endure inequity in the CEO position, or do they benefit from their minority status? An empirical examination. *Strategic Management Journal* 36, 1115-1134.

Inglehart, R. F., Ponarin E., Inglehart, R.C. 2017. Cultural change, slow and fast: The distinctive trajectory of norms governing gender equity and sexual orientation. *Social Forces* 95, 1313-1340.

Inglehart, R, C., Haerpfer, C., Moreno, A., Welzel, C., Kizilova, K., Diez-Medrano, J., Lagos, M., Norris, P., Ponarin, E., Puranen, B., et al. (eds.). 2014. World Values Survey: Round Six - Country-Pooled Datafile. Madrid: JD Systems Institute.

Inglehart, R., Welzel, C. 2005. *Modernization, Cultural Change, and Democracy: The Human Development Sequence*. New York: Cambridge University Press.

International Labour Office. 2014. Maternity and Paternity at Work: Law and Practice across the World. https://www.ilo.org/wcmsp5/groups/public/@dgreports/@dcomm/@publ/documents/publication/wcms_242615.pdf

Juhn, C., K. McCue. 2016. Evolution of the marriage earnings gap for women. *American Economic Review: Papers & Proceedings* 106, 252-256.

Keloharju, M., Knupfer, S., Tag, J. 2022. What prevents women from reaching the top? IFN working paper.

Kistler, D., Thöni, C., Welzel, C. 2015. World Values Survey response and behavior. *World Values Research* 8, 101-122.

Kosteas, V.D. 2013. Gender role attitudes, labor supply, and human capital formation. *Industrial Relations: A Journal of Economy and Society* 52, 915-940.

Kruger, S., Maturana, G., Nickerson, J. 2020. How has COVID-19 impacted research productivity in economics and finance? University of Texas at Austin Working Paper.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R.W. 1997. Legal determinants of external finance. *The Journal of Finance* 52, 1131-1150.

La Porta, R.L., Lopez-de-Silanes, F., Shleifer, A., Vishny, R.W. 1998. Law and finance. *Journal of Political Economy* 106, 1113-1155.

Lazear, E.P., Rosen, S. 1990. Male-female wage differentials in job ladders. *Journal of Labor Economics* 8, 106-123.

Licht, A., Adams, R. 2022. Shareholders and stakeholders around the world: The role of values, culture, and law in directors' decisions." ECGI Working Paper.

Maasoumi, E., Wang, L. 2019. The gender gap between earnings distributions. *Journal of Political Economy*, 127, 2438-2504.

Matsa, D., Miller, A. 2011. Chipping away at the glass ceiling: Gender spillovers in corporate leadership. *American Economic Review: Papers and Proceedings* 101, 635-639.

McLean, A. D., Pirinsky, C.A., Zhao, M. 2022. Corporate leadership and inherited beliefs about gender roles. *Journal of Financial and Quantitative Analysis*, forthcoming.

Oaxaca, R., 1973. Male-female wage differentials in urban labor markets. *International Economic Review* 14, 693-709.

Olivetti, C., Petrongolo, B. 2017. The economic consequences of family policies: Lessons from a century of legislation in high-income countries. *Journal of Economic Perspectives* 31, 205-230.

O'Neill, J., 2003. The gender gap in wages, circa 2000. *American Economic Review* 93, 309-314.

O'Neill, J., Polachek, S., 1993. Why the gender gap in wages narrowed in the 1980s. *Journal of Labor Economics* 11, 205-228.

Ortiz-Ospina, E., Tzvetkova, S., Roser, M. 2018. Female Labor Supply. Published online at OurWorldInData.org. Retrieved from: 'https://ourworldindata.org/female-labor-supply' [Online Resource]

Pagano, M., Volpin, P. 2005. The political economy of corporate governance. *American Economic Review* 95, 1005-1030.

Reuben, E., Sapienza, P., Zingales, L. 2015. Taste for competition and the gender gap among young business professionals. NBER Working Paper 21695.

Roberts, M., Whited, T. 2012. Endogeneity in empirical corporate finance. in George Constantinides, Milton Harris, Rene Stulz, eds. *Handbook of the Economics of Finance* Volume 2, Elsevier.

Ryan Jr, H. E., Wiggins III, R.A. 2001. The influence of firm-and manager-specific characteristics on the structure of executive compensation. *Journal of Corporate Finance* 7, 101-123.

Sapienza, P. 2020. Comment on The glass ceiling and the paper floor: Changing gender composition of top earners since the 1980s. *NBER Macroeconomics Annual* 35: 374-380.

Shleifer, A., Vishny, R.W. 1997. A survey of corporate governance. *The Journal of Finance* 52, 737-783.

Spamann, H. 2010, The "Antidirector Rights Index" revisited. *Review of Financial Studies* 23, 467-486.

Spamann, H. 2020. On inference when using state corporate laws for identification." Harvard Law School John M. Olin Center Discussion Paper No. 1024.

Weber, M., 1905. *The Protestant Ethic and the Spirit of Capitalism*. Translated 1930 by Talcott Parsons, Anthon Giddens. Unwin Hyman, London & Boston, 1930.

Welzel, C. 2013. *Freedom Rising: Human Empowerment and the Quest for Emancipation*. New York: Cambridge University Press.

Wollstonecraft, M. 1792. *A Vindication of the Rights of Woman: with Strictures on Political and Moral Subjects*. London: Printed for J. Johnson.

Zandberg, J. 2021. Family comes first: Reproductive health and the gender gap in entrepreneurship. Journal of Financial Economics 140, 838-864.

Zingales, L. 2015. The cultural revolution in finance. *Journal of Financial Economic*s 117, 1-4.

Table 1: Country cultural norm measures

This table presents the country averages for the cultural norm measures, which are derived from responses to the World Values Survey as described in Appendix Table A1. In brief, the variables measure the degree to which the following hold: Gender_educ: education important for women; Gender_work: acceptance of women working; Religion: influence; Violence: acceptance; Intolerance: acceptance; Hard work: importance; Individualism: importance of the individual versus the collective. Corruption: acceptance; Trust: people can be trusted. Light colored cells are the lowest five scores across the countries, dark colored cells are the highest five scores (and include ties).

Country	Gender_ educ	Gender_ work	Religion	Violence	Intol.	Hard work	Indivi	Corrup	Trust
Australia	0.42	0.38	0.35	0.05	0.78	0.59	0.64	0.05	0.47
Belgium	0.39	0.38	0.26	0.05	0.47	0.58	0.34	0.09	0.43
Canada	0.27	0.58	0.47	0.17	0.20	0.52	0.57	0.06	0.67
China	0.21	0.35	0.39	0.26	0.80	0.66	0.39	0.14	0.44
Denmark	0.34	0.40	0.43	0.26	0.47	0.62	0.45	0.05	0.51
Finland	0.38	0.59	0.33	0.26	0.28	0.61	0.57	0.05	0.38
France	0.22	0.40	0.33	0.11	0.47	0.60	0.56	0.12	0.43
Germany	0.29	0.35	0.40	0.07	0.57	0.61	0.48	0.07	0.30
Hong Kong	0.27	0.36	0.33	0.18	0.91	0.59	0.49	0.08	0.37
India	0.14	0.37	0.36	0.15	0.63	0.59	0.44	0.16	0.35
Ireland	0.23	0.49	0.40	0.15	0.50	0.78	0.33	0.07	0.40
Israel	0.29	0.31	0.54	0.19	0.90	0.62	0.40	0.08	0.50
Italy	0.26	0.50	0.82	0.20	0.47	0.44	0.49	0.14	0.40
Japan	0.50	0.35	0.26	0.05	0.73	0.66	0.50	0.06	0.20
Luxembourg	0.13	0.35	0.27	0.07	0.77	0.57	0.41	0.09	0.37
Malaysia	0.18	0.46	0.46	0.17	0.63	0.66	0.40	0.24	0.43
Netherlands	0.42	0.41	0.68	0.07	0.46	0.53	0.48	0.06	0.38
New Zealand	0.26	0.53	0.34	0.05	0.20	0.72	0.54	0.05	0.60
Norway	0.42	0.44	0.35	0.05	0.81	0.65	0.39	0.04	0.44
Poland	0.37	0.37	0.40	0.06	0.57	0.48	0.37	0.05	0.24
Portugal	0.18	0.45	0.86	0.05	0.53	0.47	0.56	0.15	0.44
Singapore	0.31	0.35	0.33	0.27	0.45	0.68	0.48	0.08	0.50
South Africa	0.16	0.35	0.53	0.37	0.83	0.52	0.41	0.11	0.34
Spain	0.18	0.47	0.83	0.05	0.57	0.33	0.41	0.15	0.33
Sweden	0.39	0.37	0.36	0.05	0.20	0.57	0.45	0.07	0.66
Switzerland	0.24	0.37	0.41	0.05	0.19	0.69	0.40	0.07	0.60
Taiwan	0.19	0.37	0.49	0.26	0.66	0.62	0.43	0.06	0.45
Thailand	0.16	0.39	0.50	0.10	0.80	0.44	0.40	0.20	0.32
Ukraine	0.12	0.37	0.47	0.11	0.84	0.48	0.35	0.37	0.40
United Kingdom	0.37	0.36	0.44	0.07	0.87	0.75	0.59	0.07	0.54
United States	0.37	0.37	0.59	0.07	0.87	0.64	0.48	0.06	0.35
Average	0.3	0.4	0.5	0.1	0.6	0.6	0.5	0.1	0.4
Median	0.3	0.4	0.4	0.1	0.6	0.6	0.5	0.1	0.4

Table 2: Correlations across country institutional and cultural norm variables

This table presents the correlations for the cultural norm measures, which are derived from responses to the World Values Survey as described in Appendix Table A1, along with the country institutional measures, ADRI and %female labor participation. In brief, the variables measure the degree to which the following hold: Gender_educ: education important for women; Gender_work: acceptance of women working; Religion: influence; Violence: acceptance; Intolerance: acceptance; Hard work: importance; Individualism: importance of the individual versus the collective. Corruption: acceptance; Trust: people can be trusted.

	ADRI	**%Female Partic.**	**Gender Educ.**	**Gender Work**	**Religion**	**Viol.**	**Intol.**	**Hard work**	**Indiv.**	**Corrup.**	**Trust**
ADRI	1.00										
%Female Labor Participation	-0.08	1.00									
Gender_ Education	-0.18	-0.36	1.00								
Gender_Work	-0.36	-0.33	0.82	1.00							
Religion	-0.47	-0.26	0.85	0.73	1.00						
Violence	0.46	-0.24	0.26	0.17	0.01	1.00					
Intolerance	-0.42	-0.21	0.83	0.69	0.78	-.01	1.00				
Hard work	-0.31	-0.21	0.83	0.70	0.86	0.04	0.81	1.00			
Individualism	-0.25	-0.15	0.84	0.57	0.83	0.01	0.86	0.86	1.00		
Corruption	-0.03	-0.33	0.71	0.55	0.65	0.45	0.60	0.66	0.61	1.00	
Trust	-0.29	-0.38	0.38	0.39	0.46	-0.23	0.42	0.38	0.38	0.27	1.00

Table 3: Distribution of executives and their average compensation by country

This table shows the distribution of the executives and their compensation for each country in the sample. The sample includes countries with at least 100 observations over the 2004 -2016 sample period. Panel A shows the distribution of the executives by country and title, as well as the percent of women who hold the titled roles. Roles reported are for the top 5 executive positions (CEO, President, CFO, CDO, and SVP). Panel B shows the distribution of firm sizes (measured as total assets) executive compensation by country for CEOs and the other top three executives (President, COO, CFO) divided by gender. The table also reports the significance level for *t*-tests of the difference between the compensation for men versus women where ***, **, * denote significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Distribution of executives in each country by job title

		CEO		President		CFO		COO		SVP	
Country	**Total #**	**% Female**	**Total**	**% Female**	**Total**	**% Female**	**Total**	**% Female**	**Total**	**% Female**	**Total**
Australia	55,343	0.012	19300	0.12	310	0.05	13287	0.04	5067	0.02	4671
Belgium	2,464	0.023	1540	0.02	98	0.03	274	0.02	124	0.01	194
Canada	103,707	0.020	37721	0.03	10066	0.08	33318	0.02	6890	0.02	5709
China	45,578	0.036	16729	0.05	3756	0.18	10453	0.09	1141	0.02	716
Denmark	1,262	0.023	659	0.00	58	0.02	306	0.03	77	0.00	89
Finland	1,903	0.007	1250	0.01	142	0.08	194	0.22	36	0.02	172
France	11,728	0.028	6728	0.06	719	0.10	1633	0.01	745	0.04	1275
Germany	9,509	0.011	4084	0.01	105	0.01	2670	0.01	952	0.01	597
Hong Kong	22,842	0.049	13007	0.05	1197	0.09	4052	0.09	1393	0.09	1046
India	50,909	0.024	27138	0.02	2056	0.03	8933	0.01	2285	0.02	3546
Ireland	3,304	0.030	1199	0.04	131	0.02	860	0.05	254	0.01	434
Israel	12,032	0.037	4790	0.08	490	0.12	2886	0.05	694	0.04	2254
Italy	5,297	0.028	3650	0.04	447	0.06	545	0.05	200	0.09	198
Japan	2,032	0.001	1487	0.00	172	0.00	88	0.00	39	0.01	214
Luxembourg	468	0.000	217	0.00	25	0.03	115	0.00	31	0.00	33
Malaysia	2,396	0.020	1467	0.02	57	0.17	328	0.03	176	0.03	175
Netherlands	4,193	0.010	1864	0.01	95	0.03	1300	0.00	340	0.02	381
New Zealand	1,392	0.015	980	0.00	18	0.00	164	0.00	59	0.00	83
Norway	6,615	0.029	2338	0.06	472	0.07	1677	0.04	502	0.02	822
Poland	8,074	0.039	3943	0.05	475	0.12	1320	0.01	252	0.00	82
Portugal	484	0.029	240	0.00	16	0.00	128	0.00	21	0.19	37

Table 3 Panel A (continued)

		CEO		President		CFO		COO		SVP	
Country	**Total #**	**% Female**	**Total**	**% Female**	**Total**	**% Female**	**Total**	**% Female**	**Total**	**% Female**	**Total**
Singapore	2,827	0.041	1529	0.03	91	0.11	420	0.09	241	0.01	276
South Africa	10,161	0.019	3952	0.00	64	0.06	3218	0.04	731	0.03	1288
Spain	1,267	0.007	740	0.05	170	0.00	71	0.00	35	0.00	65
Sweden	4,627	0.026	3777	0.05	171	0.05	318	0.09	69	0.05	165
Switzerland	4,665	0.015	2523	0.02	330	0.01	664	0.03	149	0.00	503
Taiwan	509	0.093	258	0.08	113	0.09	47	0.09	11	0.09	46
Thailand	6,879	0.062	3689	0.16	799	0.31	899	0.11	509	0.02	236
Ukraine	111	0.037	54	0.00	0	0.26	23	0.44	27	0.00	1
United Kingdom	40,082	0.014	17358	0.02	518	0.03	13702	0.02	2865	0.02	2350
United States	253,186	0.020	83272	0.03	28208	0.05	65075	0.03	18986	0.02	27010
Total	675,846	0.023	267483	0.04	51369	0.07	168968	0.03	44901	0.02	54668

Table 3 Panel B Distribution of firm size and compensation

	Average firm size (Total Assets)			Total compensation for CEOs			Total compensation for President, COO, CFO		
Country	**Men**	**Women**	**Sig Diff**	**Men**	**Women**	**Sig Diff**	**Men**	**Women**	**Sig Diff**
Australia	11,054	12,879	*	1,042,340	1,055,649		503,977	461,570	*
Belgium	54,733	19,673	***	974,031	571,399	***	341,264	6,579	***
Canada	9,761	4,065	**	674,890	600,392	***	400,782	225,901	***
China	55,633	29,786	***	217,944	196,178	***	142,888	101,977	**
Denmark	42,070	13,420	***	917,380	1,035,575	***	760,385	417,603	***
Finland	7,920	3,140	*	756,832	521,087	***	458,848	132,405	***
France	65,748	24,131	***	952,575	294,058	***	567,710	397,434	**
Germany	83,086	22,668	***	1,595,598	526,784	***	1,017,351	756,362	**
Hong Kong	8,887	3,219	*	686,860	483,908	***	416,777	317,991	**
India	5,597	14,587	**	180,516	246,863	***	99,407	53,101	***
Ireland	10,888	5,993	**	4,198,412	505,671	***	1,800,178	2,216,262	**
Israel	7,377	14,634	**	621,047	505,558	***	323,822	243,729	**
Italy	40,557	2,429	***	1,108,230	830,285	***	768,459	527,528	***
Japan	92,931	8,725	***	1,765,187	1,038,185	***	1,622,148		
Luxembourg	5,712	1,385	**	1,560,396	na			716,887	***
Malaysia	12,572	5,133	***	323,752	466,564	***	224,443	63,390	***

Table 3 Panel B (continued)

	Average firm size (Total Assets)			Total compensation for CEOs			Total compensation for President, COO, CFO		
Country	Men	Women	Sig Diff	Men	Women	Sig Diff	Men	Women	Sig Diff
Netherlands	69,748	8,801	***	3,143,927	3,766,052	***	1,104,171	848,926	***
New Zealand	1,175	1,312		469,661	145,449	***	326,440		
Norway	12,766	26,373	***	577,486	591,354		361,406	266,209	**
Poland	10,761	13,203	***	256,284	257,713		248,100	106,878	***
Portugal	14,535	1,114	***	731,055	262,878	***	560,952		
Singapore	8,182	10,216	*	1,201,987	600,710		649,698	324,124	***
South Africa	7,199	7,254		761,437	657,134	**	437,457	348,085	**
Spain	79,750	17,547	***	1,340,969	945,629	***	940,460	194,214	***
Sweden	21,311	81,665	***	581,847	600,785		316,407	70,377	***
Switzerland	79,729	39,433	***	2,196,239	745,366	***	1,250,241	136,440	***
Taiwan	8,665	14,008	***	303,055	204,227	***	168,150	297,306	***
Thailand	14,513	14,899		20,077	16,819	**	15,759	12,968	**
Ukraine	140	139		270,217	165,123	***	355,208	166,582	***
United Kingdom	22,555	4,776	***	1,448,439	2,124,958	***	808,065	1,116,859	**
United States	10,753	10,727		4,104,529	3,755,590	*	2,267,151	2,401,140	*
Total	9,159	6407	***	1,808,296	1,409,676		1,021,062	989,313	

Table 4 Relation of executive compensation to gender and cultural norms

This table reports the results of Equation 1 using an OLS regression of total compensation, defined as ln(compensation), on the gender indicator (GenderInd) and country institution and the cultural variables individually. Panel A includes the culture variables: Gender_education, Gender_work. Religion, and Violence. Panel B includes the culture variables: Intolerance, Hardwork, Individualism, Corruption and Trust. In Panel C we employ historical cultural variables from 1980. For each variable, the coefficient is reported on the first line with the p-value in parentheses. The regression also includes controls for each of the executive roles, executive's age and tenure, firm size, EBITDA/assets, debt/assets, institutional ownership, and total returns, and industry, year and country fixed effects as indicated. The robust standard errors are clustered by country. ***, **, * denote significance at the 1%, 5% and 10% levels, respectively.

Panel A Gender and Religious Culture

	(1)	(2)	(3)	(4)	(5)	(6)
GenderInd	-0.166***	-0.156***	-0.206***	-0.329***	-0.158***	-0.089***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
% Female labor participation		1.440***	-1.155***	-0.378***	0.881***	-0.763***
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
ADRI		-0.562***	-0.580***	-0.630***	-0.594***	-0.422***
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Gender education			3.244***			
			(0.00)			
GenderInd*Gender education			0.212**			
			(0.05)			
Gender work				-1.291***		
				(0.00)		
GenderInd*Gender work				0.245***		
				(0.01)		
Religion					-0.470***	
					(0.00)	
GenderInd*Religion					-0.028*	
					(0.09)	
Violence						-5.069***
						(0.00)
GenderInd*Violence						-1.409***
						(0.00)
Observations	675,846	675,846	675,846	675,846	675,846	675,846
Adjusted R-squared	0.187	0.208	0.216	0.212	0.209	0.215
Control variables	Yes	Yes	Yes	Yes	Yes	Yes
Year and Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	No	No	No	No	No
SE clustered by country	Yes	Yes	Yes	Yes	Yes	Yes

Table 4 Panel B General Cultural Variables

	(1)	(2)	(3)	(4)	(5)	(6)
GenderInd	-0.166***	-0.082*	-0.251***	-0.141***	-0.158***	-0.206***
	(0.00)	(0.06)	(0.00)	(0.00)	(0.00)	(0.00)
% Female Labor		0.157***	1.201***	1.153***	0.881***	0.830***
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
ADRI		-0.636***	-0.575***	-0.573***	-0.594***	-0.555***
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Intolerance		-0.947***				
		(0.00)				
GenderInd*Intolerance		-0.062**				
		(0.04)				
Hardwork			0.247***			
			(0.00)			
GenderInd*Hardwork			0.253***			
			(0.00)			
Individualism				0.403***		
				(0.00)		
GenderInd*Individualism				0.363***		
				(0.00)		
Corruption					-3.255***	
					(0.00)	
GenderInd*Corruption					-0.025	
					(0.92)	
Trust						1.129***
						(0.01)
GenderInd*Trust						-0.228*
						(0.07)
Observations	675,846	675,846	675,846	675,846	675,846	675,846
Adjusted R-squared	0.187	0.212	0.209	0.209	0.210	0.208
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	No	No	No	No	No
SE clustered by country	Yes	Yes	Yes	Yes	Yes	Yes

Table 4 Panel C Historic culture

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
GenderInd	-0.024***	-0.326***	-0.190***	-0.112***	-0.276**	-2.250***	-0.129**	-0.312***	-0.250***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.02)	(0.00)	(0.04)	(0.00)	(0.00)
% Female labor participation	0.087	0.682***	3.952***	0.700***	1.663***	1.196***	1.733***	1.910***	6.249***
	(0.12)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
ADRI	-0.625***	-0.589***	-0.310***	-0.400***	-0.550***	-0.560***	-0.323***	-0.485***	-0.565***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Gender education	4.266***								
	(0.00)								
GenderInd*Gender education	0.296								
	(0.30)								
Gender work		-4.108***							
		(0.00)							
GenderInd*Gender work		0.618***							
		(0.01)							
Religion			-3.377***						
			(0.00)						
GenderInd*Religion			-0.090*						
			(0.08)						
Violence				-6.728***					
				(0.00)					
GenderInd*Violence				-0.463**					
				(0.03)					
Intolerance					-3.538***				
					(0.00)				
GenderInd*Intolerance					-0.285*				
					(0.10)				
Hardwork						1.383***			
						(0.00)			
GenderInd*Hardwork						2.970***			
						(0.00)			
Individualism							4.173***		
							(0.00)		
GenderInd*Individualism							0.588***		
							(0.00)		
Corruption								-6.120***	
								(0.00)	
GenderInd*Corruption								-6.771***	
								(0.00)	
Trust									5.224***
									(0.00)
GenderInd*Trust									-1.027***
									(0.00)
Observations	675,846	675,846	675,846	675,846	675,846	675,846	675,846	675,846	675,846
Adjusted R-squared	0.209	0.231	0.211	0.236	0.214	0.205	0.215	0.206	0.210
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	No	No	No	Yes	No	No	No	No
SE clustered by country	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 5 Compensation and cultural norms

Factors are estimated by performing a varimax-rotated principal component analysis with the culture measures described in Appendix Table A1. F1 loads on Intolerance, Religion, Violence, Corruption; F2 loads on Gender_education, Gender_work; F3 loads on Hardwork, Individualism, and Trust

Panel A Factor Loadings

Variable	Factor1	Factor2	Factor3
Gender_education	0.4070	0.6979	0.2603
Gender_work	-0.1217	0.7848	0.3092
Religion	0.7234	0.2140	0.4026
Violence	0.8010	0.2439	0.0865
Intolerance	0.7803	0.2709	-0.1458
Hardwork	0.2211	0.2105	0.7145
Individualism	-0.2705	0.0027	0.7566
Corruption	0.8855	-0.1324	-0.0486
Trust	0.4395	0.0193	0.7829

Table 6. Relation of executive compensation to gender and cultural factors

Panel A reports the results of Equation (1) using an OLS regression of total compensation, defined as ln(compensation), on the gender indicator and country institution against the cultural variable factors from Table 5. The regression also includes controls for each of the executive roles, executive's age and tenure, firm size, EBITDA/assets, debt/assets, institutional ownership, and total returns, and industry and year fixed effects. In Panel B we re-estimate Equation (1) but use adjusted age versus actual age and interact adjusted age to our gender indicator. The robust standard errors are clustered by country. ***, **, * denote significance at the 1%, 5% and 10% levels, respectively.

Panel A: Factors

	All Roles				CEOs	Top 3	Other Execs
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
GenderInd	-0.123***	-0.106***	-0.159***	-0.126***	-0.056	-0.143***	-0.390***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.24)	(0.00)	(0.00)
F1	-0.531***			-0.340***	-0.284***	-0.361***	-0.380***
	(0.00)			(0.00)	(0.00)	(0.00)	(0.00)
GenderInd*F1	-0.020***			-0.018	-0.016	0.097**	-0.136***
	(0.00)			(0.56)	(0.77)	(0.04)	(0.01)
F2		0.815***		0.630***	0.815***	0.590***	0.461***
		(0.00)		(0.00)	(0.00)	(0.00)	(0.00)
GenderInd*F2		0.030***		0.068**	0.011**	0.280***	0.127*
		(0.00)		(0.02)	(0.05)	(0.00)	(0.06)
F3			0.269***	0.071***	0.149***	0.061***	0.072**
			(0.00)	(0.00)	(0.00)	(0.00)	(0.03)
GenderInd*F3			0.277***	0.091*	0.170**	0.091*	0.024**
			(0.00)	(0.09)	(0.03)	(0.09)	(0.02)
Constant	11.096***	9.408***	10.430***	10.094***	10.065***	10.480***	9.259***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Observations	675,846	675,846	675,846	675,846	267,483	265,238	143,125
R-squared	0.163	0.169	0.157	0.170	0.179	0.166	0.115
Include Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year and Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	No	No	No	No	No	No	No
SE clustered by country	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 6 Panel B Adjusted Age

	All Roles				CEOs	Top 3	Other Execs
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
GenderInd	-0.147***	-0.135***	-0.184***	-0.155***	-0.090*	-0.152***	-0.405***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.07)	(0.00)	(0.00)
GenderInd*Adj Age	0.001***	0.001***	0.001***	0.001***	0.001**	0.001	0.001
	(0.01)	(0.00)	(0.01)	(0.00)	(0.02)	(0.78)	(0.51)
Adjusted Age	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.002***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
F1	-0.531***			-0.340***	-0.283***	-0.361***	-0.381***
	(0.00)			(0.00)	(0.00)	(0.00)	(0.00)
GenderInd*F1	-0.021***			-0.073**	-0.225***	0.097**	-0.137***
	(0.00)			(0.01)	(0.00)	(0.04)	(0.01)
F2		0.815***		0.630***	0.815***	0.590***	0.462***
		(0.00)		(0.00)	(0.00)	(0.00)	(0.00)
GenderInd*F2		0.028**		0.065*	0.014*	0.279***	0.128*
		(0.01)		(0.07)	(0.06)	(0.00)	(0.06)
F3			0.269***	0.071***	0.149***	0.008	0.071**
			(0.00)	(0.00)	(0.00)	(0.69)	(0.03)
GenderInd*F3			0.027***	0.091*	0.091**	0.171**	0.024**
			(0.00)	(0.09)	(0.03)	(0.03)	(0.02)
Constant	11.117***	9.420***	10.453***	10.107***	10.083***	10.480***	9.305***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Observations	675,846	675,846	675,846	675,846	267483	265238	143,125
R-squared	0.211	0.212	0.204	0.215	0.198	0.222	0.197
Year Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	No	No	No	No	No	No	No
SE clustered by country	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 7 Oaxaca-Blinder decomposition analysis

This table reports the decomposition analysis of compensation for the sample of executives from Equation (2). The dependent variable is the log transformations of total compensation. The total pay gap is decomposed assuming that the male wage structure is the representative wage structure. Panel A reports the analysis for the entire sample of executives and includes indicator variables for their roles. Panel B reports analysis for each cultural norm measure separately and divides the estimations by the executives' roles.

Panel A: Pooled Executives

	Total Gap	Explained Gap	Unexplained Gap	% Unexplained	% Explained
Regression without the factors	0.535	0.441***	0.094***	0.176	0.824
Regression controlling for country	0.535	0.475***	0.060***	0.112	0.888
Regression with F1 F2 F3	0.535	0.507***	0.028	0.052	0.948

Panel B: Executives' Roles

	(1) CEO		(2) Top 3 without CEO		(3) Others	
Total Gap	**0.243*** **		**0.465*** **		**0.689*** **	
	Unexplained gap	% Unexplained	Unexplained gap	% Unexplained	Unexplained gap	% Unexplained
No Cultural Explanation	0.141***	58%	0.224***	48%	0.339***	49%
Gender_education	0.083***	34%	0.208***	45%	0.303***	44%
Gender_work	0.082***	34%	0.201***	43%	0.301***	44%
Religion	0.142***	58%	0.191***	41%	0.323***	47%
Violence	0.016**	7%	0.094***	20%	0.265***	38%
Intolerance	0.155***	64%	0.220***	47%	0.309***	45%
Hardwork	0.131***	54%	0.221***	48%	0.305***	44%
Individualism	0.123***	51%	0.223***	48%	0.337***	489%
Corruption	0.122***	50%	0.219***	47%	0.336***	49%
Trust	0.140***	58%	0.188***	40%	0.303***	44%
Factors	0.018	7%	0.101***	22%	0.270***	39%

Table 8 Paternity leave laws

This table reports the results of Equation (3) using an OLS regression on total compensation, defined as ln(compensation), controlling for the gender indicator, a paternity law indicator with a value of one if the country has passed a law that mandates paternity leave, and zero otherwise and an interaction term between the gender indicator and the paternity law indicator. The sample used in Models (1)-(3) include all developed countries, whether they have adopted paternity leave laws or not. The sample used in Models (4)-(6) is restricted to those countries that have passed paternity leave laws. For each variable, the coefficient is reported on the first line with the p-value in parentheses. The regressions include country, industry and year fixed effects. The robust standard errors are clustered by country. ***, **, * denote significance at the 1%, 5% and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	All developed countries			Countries that adopt paternity leave laws		
	Full sample	Below median age first birth	At or above median age first birth	Full sample	Below median age first birth	At or above median age first birth
GenderInd	-0.017*	-0.186***	-0.114**	-0.056***	-0.031**	-0.229***
	(0.05)	(0.00)	(0.04)	(0.01)	(0.03)	(0.00)
Post Paternity Leave	-0.004***	-0.538***	-0.013*	-0.518***	-0.505***	-0.6045***
	(0.00)	(0.00)	(0.07)	(0.00)	(0.00)	(0.00)
GenderInd*Post Paternity	0.406***	-0.451***	0.197**	0.020***	-0.068**	0.185***
	(0.00)	(0.00)	(0.02)	(0.00)	(0.02)	(0.00)
Constant	8.303***	7.212***	10.184***	10.928***	22.148***	11.092***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Observations	559,812	279906	279906	664,160	332080	332080
Adjusted R-squared	0.245	0.307	0.307	0.236	0.307	0.1158
Year Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
SE clustered by country	Yes	Yes	Yes	Yes	Yes	Yes

Table 9 Board diversity laws

This table reports the results of Equation (3) using an OLS regression of total compensation, defined as ln(compensation), controlling for the gender indicator, an indicator variable that is equal to one if the country has passed a law that mandates women on the board, and zero otherwise, and an interaction term between the gender indicator and the board diversity law indicator. For each variable, the coefficient is reported on the first line with the p-value in parentheses. The regressions include country, industry and year fixed effects as indicated. The robust standard errors are clustered by country. ***, **, * denote significance at the 1%, 5% and 10% levels, respectively.

	(1)	(2)
GenderInd	-0.066***	-0.004***
	(0.00)	(0.87)
Post-board gender diversity law	-0.024***	-0.016***
	(0.00)	(0.00)
GenderInd*Post board gender diversity law		0.155***
		(0.00)
Constant	9.670***	9.672***
	(0.00)	(0.00)
Observations	675,846	675,846
Adjusted R-squared	0.255	0.255
Year and Industry FE	Yes	Yes
Country FE	Yes	Yes
SE clustered by country	Yes	Yes

Appendix Table A1 Cultural norm measure questions

The WVS questions for the cultural norm measures are listed below. For each measure, an index is created by adjusting the responses to achieve the same polarity. With multiple possible responses, we recode by distributing them evenly in the 0 to 1 space, where zero is disagreement, and one is agreement.

Gender_education— (positive views regarding female education)

1. Disagree with: a university is more important for a boy than a girl.
2. Agree with: Important traits in a woman: Woman educated.

Gender_ work— (positive views regarding women in the workforce)

1. Agree with: When jobs are scarce: both men and women have the right to work.
2. Agree with: Husband and wife should both contribute to income.
3. Agree with: Important traits in a woman: Woman having work outside the home.
4. Disagree with: Woman should not work outside of the home unless forced to do so.
5. Disagree with: if a woman earns more than her husband, it is almost certain to cause a problem.
6. Agree with: Having a job is the best way for a woman to be an independent person.
7. Disagree with: When a mother works for pay, the children suffer.

Religion

1. Agree with: Do you have a great deal of confidence in the church?
2. Agree with: When science and religion conflict, religion is always right.

Violence

1. Never justified: For a man to beat his wife
2. Never justified: To beat your children

Intolerance

1. Disagree with: Is it proper for churches to speak out on racial discrimination?
2. Agree with: When jobs are scarce, employers should give priority to people of this country over immigrants.

Hard work— (importance of work)

1. Agree with: Work is what makes life worth living, not leisure
2. Agree with: People who do not work become lazy
3. Agree with: Work should come first above all else
4. Agree with: Hard work brings success versus is more a matter of luck and connections
5. Very important: How important in your life would you say it is: Work
6. Agree with: Importance as a quality for children to learn at home: Hard work.

Individualism— (Individual is preferred)

1. Agree with: Feel have complete control and choice over the way your life turns out
2. Disagree with: one should follow one's superior's instructions even when one does not fully agree with them vs should follow one's superior's instructions only when one is convinced that they are right.
3. Agree with: I seek to be myself rather than to follow others
4. Agree with: How much respect is there for individual human rights in this country
5. Agree with: Importance as a quality for children to learn at home: Independence

Trust (people can be trusted)

1. Agree with most people try to be fair: Do you think most people would try to take advantage of you or do you think most people try to be fair
2. Agree with people can be trusted: Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?

Bribery justified

1. Agree with bribery is always justifiable: It is never justifiable to accept a bribe vs. always justifiable

Appendix Table A2 Relation of executive compensation to gender and cultural norms excluding U.S. firms

This table reports the results of an OLS regression of total compensation, defined as ln(compensation), on the gender indicator and country institution and the cultural variables individually. The table is the same as Table 4 except that the U.S. firms have been omitted from the sample. Panel A includes the culture variables gender_education, gender_work, religion, and violence. Panel B includes the culture variables, intolerance, hard work, individualism, corruption and trust. For each variable, the coefficient is reported on the first line with the p-value in parentheses. The regression also includes controls for each of the executive roles, executive's age and tenure, firm size, EBITDA/assets, debt/assets, institutional ownership, and total returns, and industry, year and country fixed effects as indicated. The robust standard errors are clustered by country. ***, **, * denote significance at the 1%, 5% and 10% levels, respectively.

Panel A Culture related to Gender and Religion

	(1)	(2)	(3)	(4)	(5)	(6)
GenderInd	-0.217***	-0.239***	-0.139***	-0.123***	-0.140***	-0.295***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
% Female labor participation		1.136***	1.826***	0.985***	0.689***	0.456***
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
ADRI		0.083***	0.070***	0.008	0.018	0.130***
		(0.00)	(0.00)	(0.52)	(0.16)	(0.00)
Gender education			3.609***			
			(0.00)			
GenderInd*Gender education			0.485***			
			(0.00)			
Gender work				-1.447***		
				(0.00)		
GenderInd*Gender work				0.541***		
				(0.00)		
Religion					-1.462***	
					(0.00)	
GenderInd*Religion					-0.205*	
					(0.09)	
Violence						-4.724***
						(0.00)
GenderInd*Violence						-1.029***
						(0.00)
Observations	422,660	422,660	422,660	422,660	422,660	422,660
Adjusted R-squared	0.115	0.116	0.129	0.123	0.119	0.125
Control variables	Yes	Yes	Yes	Yes	Yes	Yes
Year and Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	No	No	No	No	No
SE clustered by country	Yes	Yes	Yes	Yes	Yes	Yes

Appendix Table A2 Panel B General Culture

	(1)	(2)	(3)	(4)	(5)	(6)
GenderInd	-0.217***	-0.115**	-0.203***	-0.214***	-0.121***	-0.225*
	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.06)
% Female Labor		0.872***	0.526***	0.515***	0.055	0.317***
		(0.00)	(0.00)	(0.00)	(0.35)	(0.00)
ADRI		0.099***	0.034***	0.036***	0.161***	0.053***
		(0.00)	(0.01)	(0.01)	(0.00)	(0.00)
Intolerance		-1.372***				
		(0.00)				
GenderInd*Intolerance		-0.062*				
		(0.08)				
Hardwork			0.614***			
			(0.00)			
GenderInd*Hardwork			0.302***			
			(0.00)			
Individualism				0.846***		
				(0.00)		
GenderInd*Individualism				0.461***		
				(0.00)		
Corruption					-5.816***	
					(0.00)	
GenderInd*Corruption					-0.755*	
					(0.08)	
Trust						1.347***
						(0.00)
GenderInd*Trust						-1.155***
						(0.00)
Observations	422,660	422,660	422,660	422,660	422,660	422,660
Adjusted R-squared	0.115	0.126	0.118	0.117	0.122	0.117
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	No	No	No	No	No
SE clustered by country	Yes	Yes	Yes	Yes	Yes	Yes

Appendix Table A3: Pay gap and religion

This table reports the results of an OLS regression of the log of total compensation on an indicator variable equal to one if Protestant (Catholic) is the dominant religion. The regressions include controls for each of the executive roles, executive's age and tenure, firm size, EBITDA/assets, debt/assets, institutional ownership, and total returns. The regressions include industry, year and country fixed effects as indicated. The robust standard errors are clustered by country. ***, **, * denote significance at the 1%, 5% and 10% levels, respectively.

	(1)	(2)
Gender	-0.080***	-0.096***
	(0.00)	(0.00)
Pct Female Labor	0.857***	1.322***
	(0.00)	(0.00)
ADRI	-0.658***	-0.627***
	(0.00)	(0.00)
Protestant	1.056***	
	(0.00)	
Gender*Protestant	-0.235***	
	(0.00)	
Catholic		0.701***
		(0.00)
Gender*Catholic		-0.250***
		(0.00)
Constant	10.812***	10.553***
	(0.00)	(0.00)
Observations	675,846	675,846
Adjusted R-squared	0.216	0.212
Include Controls	Yes	Yes
Year Industry FE	Yes	Yes
Country FE	No	No
SE clustered by country	Yes	Yes