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Gender and Corruption: The Neglected Role of Culture

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Gender and Corruption: The Neglected Role of Culture*

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Abstract: Empirical findings of a negative association between female participation in politics and the labor market, and levels of corruption have received great attention. We reproduce this correlation for 177 countries from 1998 to 2014. Once taking account of country-specific heterogeneity by fixed effects, the negative association disappears entirely in terms of statistical significance and magnitude. This suggests that female participation in politics and the labor market *is not* directly linked to lower corruption. Exploiting different dimensions of culture as country-specific characteristics, our analysis shows that power distance and masculinity systematically affect corruption. These two cultural characteristics are sufficient to fully mitigate any association between gender and corruption. Our findings point out the importance of culture and suggest that its omission causes a spurious correlation, leading to the erroneous claim that increased female participation in public life alone reduces corruption.

Keywords: Gender, corruption, female participation, power distance, culture, development.
JEL Classification: J16, D73, Z10.

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Women aren't better men. They only had fewer opportunities to get their hands dirty.

(Alice Schwarzer, author and feminist
Frankfurter Allgemeine Zeitung, April 2008, translated from German)

I. INTRODUCTION

Over the past decades, governments and international organizations around the world have implemented policies aimed at increasing the share of women in politics and the labor market. In 2015, the UN member states renewed their commitment to "achieve gender equality and empower all women and girls" by adopting the Sustainable Development Goals (United Nations 2015). The Copenhagen Consensus Center (2015) estimates that the benefits per US-Dollar spent on increasing women's political representation are "likely to be high". Similarly, the McKinsey Global Institute (2015) reckons that closing the gender gap in labor markets could increase global annual GDP by $28 trillion, i.e., 26 percent, in 2025.

While promoting gender equality in itself is desirable, a promising effect of increased female participation in society has been linked to corruption: women, on average, seem to be less corruptible than men. The corresponding findings usually rely on cross-country evidence, as repeated country-level information on both female representation and corruption has been limited (Dollar, Fisman and Gatti 2001; Swamy et al. 2001).

Ideally, we would want to analyze whether increasing female participation *within* a country truly leads to lower levels of corruption and therefore, we need to observe a set of countries for a certain period.[1] As for the degree of involvement of women in society throughout the world, we now have substantial evidence that historical factors have played a substantial role (Alesina, Giuliano and Nunn 2013). Similarly, cultural roots have been strongly associated with corruption

[1] Unobserved heterogeneity between countries has been shown to matter in a number of related topics. For instance, determinants of economic growth (Islam 1995), democracy (Acemoglu et al. 2008), and government size (Ram 2009) change fundamentally once country-specific, time-constant characteristics are taken into account.

levels (Fisman and Miguel 2007; Barr and Serra 2010). Thus, the previously conducted cross-country studies on the link between gender and corruption might be traced to unobservable country-specific differences, in particular to cultural characteristics. Women may not be less corrupt than men, but they may, indeed, only have had less time to get their hands dirty.

As a first contribution of this article to the literature, we analyze the relationship between gender and corruption using panel data for up to 177 countries over the years 1998 to 2014. Specifically, we distinguish between the role of women in politics and in the labor force when analyzing potential links to corruption. We replicate the benchmark result of Dollar, Fisman and Gatti (2001) and Swamy et al. (2001), suggesting a larger female participation in parliament and the labor force to be associated with less corruption. We then advance the existing literature by introducing country fixed-effects to account for time-invariant unobserved heterogeneity across countries that is likely to affect the link between gender and corruption such as cultural, geographical, historical, and institutional factors. Our empirical results differ substantially from previous cross-country evidence: The share of women in parliament and in the female labor force participation rate lose all their power in explaining corruption levels, both in terms of statistical relevance and magnitude. In fact, we find relatively precisely estimated zero effects for the link between gender and corruption.

As a second contribution, we focus on the interplay between culture, gender, and corruption. To test the hypothesis that a cultural factor influences both female representation in society and corruption, thus causing a spurious correlation, we introduce Hofstede's (1980, 2001, 2011) cultural dimensions into our analysis. We identify two cultural factors that mediate the link between gender and corruption: Power distance and masculinity. Once we control for these cultural dimensions, the relationship between female participation in the public sphere and corruption vanishes entirely. This also holds when we instrument power distance and female participation with genetic distance (Gorodnichenko and Roland 2011, 2016) to address endogeneity concerns. Disregarding the effects of culture in previous studies arguably lead to biased results and to the claim that increasing female

participation *per se* could be an effective means to fight corruption. Our results suggest that such claims regarding the association of female participation in society and corruption cannot be upheld.

This article is organized as follows: Section II reviews the literature and presents theoretical considerations on the interplay between gender, culture, and corruption. Section III describes our data and the econometric methodology. In Section IV, we present our main empirical findings, address endogeneity concerns, and discuss a range of robustness tests. Section V concludes.

II. LITERATURE AND THEORETICAL CONSIDERATIONS

Two influential cross-country studies suggest that women might be the "fairer sex" when it comes to corruption. Dollar, Fisman and Gatti (2001) find a strong, negative, and statistically significant association between the share of women in a nation's parliament and the respective country's level of corruption. The authors point to behavioral studies (e.g. Glover et al. 1997; Eckel and Grossman 1998) suggesting that women are more trustworthy, less opportunistic, and more public-spirited than men. Swamy et al. (2001) find the same association for female representation in senior positions in the government bureaucracy and in the labor force. These results are confirmed when using more recent data, as shown by Watson and Moreland (2014).

Similar results can be observed when experimental research examines gender differences towards corruption (e.g. Schulze and Frank 2003; Rivas 2013; Barnes and Beaulieu 2014; Frank, Lambsdorff and Boehm 2011; Chaudhuri 2012). While laboratory studies can help to understand certain mechanisms at work, results need to be interpreted with caution, especially with respect to women in public office: Politicians are a specific, self-selected group (Ruske 2015, Kauder and Potrafke 2016) which may not be comparable to participants studied in laboratories.

Recently, a growing body of research doubts a causal effect of female representation on corruption. Some studies question the direction of causality and argue that male-dominated patronage networks make it more difficult for women to enter politics and engage in corrupt

practices (e.g. Alhassan-Alolo 2007; Goetz 2007; Sundström and Wängnerud 2014; Stockemer 2011). Others doubt the general existence of a universal link between gender and corruption, as well as gender and governance (Branisa and Ziegler 2011; Stadelmann et al. 2014). Research has also focused on potentially mediating factors for corruption. Sung (2003) proposes a "fairer system" rather than "fairer sex" hypothesis.[2] Further cross-country evidence suggests that the relationship is specific to democracies (Esarey and Chirillo 2013) and particularly present when electoral accountability is high (Esarey and Schwindt-Bayer 2016). Studies aiming to cope with the problem of unobserved heterogeneity across countries are scarce and provide mixed results (e.g. Sung 2012). Torgler and Valev (2006) analyze compliance data from the World and European Values Survey for a panel of Western European countries and find that women are less tolerant of corruption. We contribute to this literature by conducting an extensive panel data analysis of the potential link between participation of women in parliament and in the labor market, and corruption taking into account country fixed-effects. This allows us to control for country-specific, time-invariant characteristics and tackle the issue of heterogeneity between countries.

We advance existing research by proposing an alternative explanation for the association between gender and corruption. Alatas et al. (2009) suggest that gender differences in corruptibility might be culture-specific. Numerous authors rely on Hofstede's conceptualization of culture (Hofstede 1980, 2001, 2011 and Hofstede, Hofstede and Minkov 2010). Hofstede (2011: 3) defines culture as "the collective programming of the mind that distinguishes the members of one group or category of people from others."[3] This conceptualization has been widely used in the literature,

[2] Sung's (2003) results suggest that the correlation between gender and corruption shrinks and loses statistical significance once measures of liberal democracy are accounted for.

[3] Applying factor analysis, Hofstede (1980, 2001, 2011) identifies four core dimensions of culture: Power distance measures the degree to which less powerful members of society accept and expect that power is distributed unequally. Uncertainty avoidance expresses a society's tolerance concerning ambiguity and uncertainty. The individualism vs. collectivism dimension measures the degree of interdependence between the members of a society. Finally, the masculinity vs. femininity dimension refers to the social preference for male values. While feminine countries are characterized by overlapping social gender roles, "masculinity stands for a society in which social gender roles are clearly distinct" and men are more concerned with material success (Hofstede 2001: 297).

including in the research on corruption (e.g. Husted 1999; Park 2003; Sanyal 2005; Seleim and Bontis 200; Gorodnichenko and Roland 2011). Yeganeh (2014) provides evidence that high power distance, high uncertainty avoidance, collectivism and masculinity tend to promote corruption. Similarly, Getz and Volkema (2001) argue that the clear separation between socioeconomic classes in countries with high power distance increases the likelihood of corrupt behavior. In highly masculine societies, Sanyal (2005: 144) hypothesizes that "an aggressive pursuit of success and achievement appears to accompany corrupt conduct".

Similarly, several studies address Hofstede's cultural dimensions in the context of gender equality (e.g. Parboteeah, Hoegl and Cullen 2008; Cheung and Chan 2007; Luthar and Luthar 2002). Following Hofstede's (2001) definition of masculinity, Cheung and Chan (2007) argue that the gender gap is smaller in low masculinity countries, gender roles are more progressive, and consequently women are elected into parliament more frequently.

Based on the existing literature, we hypothesize that particularly power distance and masculinity play a relevant role in influencing the relationship between female representation and corruption.[4] Hence, we contribute to this literature by systematically analyzing the interplay of participation of women in society and corruption taking into account cultural factors that might mitigate the relationship.

III. DATA AND METHODOLOGY

III.1 Data

We analyze the relationship between gender and corruption for up to 177 countries covering the time period from 1998 to 2014. Our main measure of corruption is the Corruption Perceptions Index (CPI) by Transparency International. A country scoring 0 is "highly corrupt" and a country

[4] This hypothesis is in line with Goetz (2007) who argues that the existence of male-dominated patronage networks makes it substantially difficult for women to enter politics and the higher positions in labor market.

scoring 10 is "very clean".[5] To ensure that our results are not peculiar to the Corruption Perceptions Index, we also provide estimates using the Control of Corruption index (CoC) from the World Bank's Worldwide Governance Indicators dataset (Kaufmann, Kraay and Mastruzzi 2013). The corresponding results are referred to Table A5 in the appendix. This alternative index ranges from -2.5 to +2.5 with higher scores corresponding to higher control of corruption.

Our main independent variables of interest are two different measures of female participation in society. First, the World Bank provides annual data on the percentage of women in parliament (denoted *WIP*) that is based on the monthly data reported by the Inter-Parliamentary Union. More specifically, we consider the fraction of seats held by female delegates in single or lower chambers of national parliaments. Second, we use the female labor force participation rate (denoted *FLFP*) provided by the International Labour Organization (ILO) database as an indicator for participation of women in society.

We control for a comprehensive list of potentially confounding factors, as identified by the associated literature. In particular, Treisman (2007) summarizes that highly developed, established democracies with a high degree of openness are generally perceived as less corrupt. Hence, we include the log and squared log of GDP per capita to account for potentially non-linear effects of overall economic development. Including the polity2 index controls for a country's level of democracy, whereas exports and imports as a share of GDP account for an economy's openness to trade. As common in the literature (e.g., Dollar, Fisman and Gatti 2001; Esarey and Chirillo 2013), we also control for geographic differences when running cross-country regressions by including dummy variables for each of the seven regions of the world, as classified by the World Bank. Further, we include the fraction of land in the tropics or subtropics, using data from Alesina,

[5] Based on expert opinions and surveys, the CPI captures the perceived level of corruption in the public sector. From 2012 on, a different methodology has been used to calculate the CPI. We conduct a robustness check including exclusively values until 2011. As demonstrated in Table A6, all our interpretations of the results are robust to using this restricted sample.

Giuliano and Nunn (2013), and a binary indicator for landlocked countries. We aim to account for possible geographic and climatic determinants that potentially affect both the incidence of corruption and the presence of women in politics and the labor force. All variables for our empirical analyses, summary statistics, and the sources are presented in Table A1 in the appendix.

III.2 Methodology

Using the presented variables, we first test the hypothesis previously advanced in cross-country studies (Dollar, Fisman and Gatti 2001; Swamy et al. 2001; Watson and Moreland 2014) that female participation in society is associated with lower levels of corruption. Our basic model specification is

$$CORRUPTION_{i,t} = \alpha + \beta_1 FEMALE_{i,t} + \beta_2 \mathrm{X}_{i,t} + \lambda_t + \varepsilon_{i,t} \quad (1)$$

where i and t represent the country and year index, respectively. $FEMALE_{i,t}$ captures the respective measure for women's involvement in politics (women in politics, *WIP*) and the labor force (female labor force participation, *FLFP*), whereas $\mathrm{X}_{i,t}$ incorporates the discussed control variables. We further add time fixed-effects with λ_t. With equation (1) we reevaluate whether the association between gender and corruption is still observed when using more recent data in a pooled model.[6]

Importantly, and in contrast to the previous literature, we exploit the panel structure of our data by introducing country fixed-effects. This allows us to control for all time-invariant country-specific characteristics that might influence both the level of corruption and female representation. Specifically, we formulate

$$CORRUPTION_{i,t} = \beta + \beta_1 FEMALE_{i,t} + \beta_2 X_{i,t} + \lambda_t + \gamma_i + \varepsilon_{i,t}, \quad (2)$$

where γ_{i} denotes country fixed-effects. Thus, equation (2) takes advantage of within-country variation and eliminates between-country differences that may stem from underlying country-

[6] Note that due to the inverse coding of our corruption measures a positive coefficient β_1 implies that an increase in female participation is associated with less corruption.

specific particularities, such as geography, history, and culture. If the relationship between female participation and corruption levels is spurious due to an omitted variable bias, β_1 should be close to zero and statistically insignificant.

Finally, we analyze the interplay between gender, corruption, and culture. Therefore, we incorporate Hofstede's cultural dimensions power distance, uncertainty avoidance, masculinity, and individualism into our pooled OLS framework (1). The dimensions are measured on a scale from 0 to 100. Countries with high values are more hierarchical, display a higher preference for avoiding uncertainty, are more individually oriented, and more dominated by male values.[7] It is important to note that the country dimension scores can be considered up-to-date and time-invariant as culture changes very slowly (Hofstede 2011), especially when considering our sample period of 17 years.

IV. EMPIRICAL RESULTS

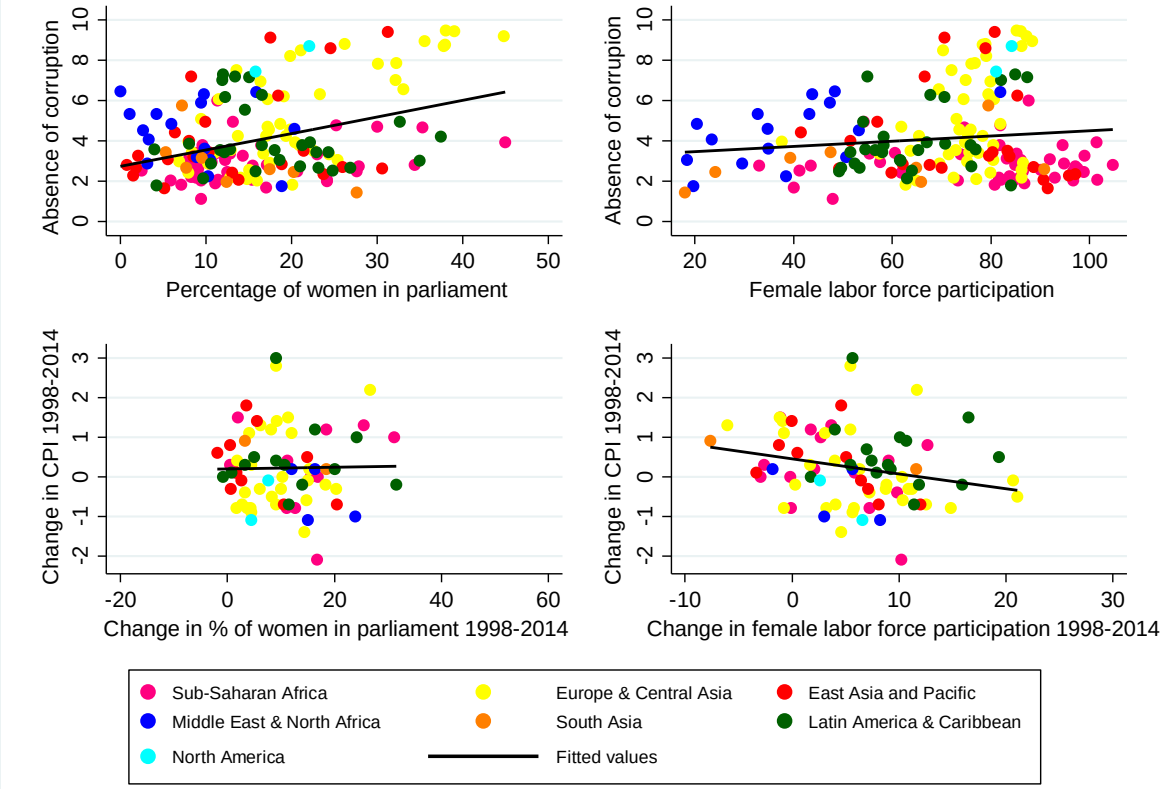
IV.1 Main empirical findings

Figure 1 illustrates the motivation of our analysis. While we observe a positive correlation between the percentage share of women in parliament and the absence of corruption within a cross-sectional setting, this association disappears entirely once we plot the changes of these variables over the time period from 1998-2014.[8] For the female labor force participation rate the cross-sectional correlation is already weaker, and looking at changes over time even reveals even a weakly negative relationship. Thus, a change in female participation in politics and the labor force does not seem to be associated with a favorable change in corruption levels.

[7] While Hofstede, Hofstede and Minkov (2010) provide data on the cultural dimensions for 76 countries, the Hofstede Centre has extended the database to more than 100 countries. The framework has also been extended by two dimensions, namely *long-term vs. short-term orientation* and *indulgence vs. restraint*. Due to data limitations, they are not included in this analysis.

[8] The changes in the CPI and the respective measure for female participation in society are substantial over time.

Figure 1: Women and Corruption: Positive associations for averaged data (1998-2014), but no associations for changes between 1998-2014



Notes: In the first row, values of the CPI, the percentage of women in parliament, and female labor force participation (working women over men) are averaged by country from 1998 to 2014. The correlation coefficient of the percentage of women in parliament is 0.37 and for female labor force participation 0.13. For the scatterplots in row two, we compute the changes of CPI and female representation over the time period 1998-2014. See Table A1 in the appendix for data definitions and sources.

The initial insights gained from Figure 1 are fully supported by our econometric analysis. As shown in Table 1, our pooled cross-sectional regressions are in line with the findings of Dollar, Fisman and Gatti (2001), Swamy et al. (2001), and Watson and Moreland (2014): Higher levels of female participation in politics and the labor force are associated with lower levels of corruption. In the univariate regressions presented in columns (1) and (4), both the percentage of women in parliament and female labor force participation are positively associated with the absence of corruption. The coefficients are statistically significant on the one and five percent level, respectively, and robust to the inclusion of non-linear effects of GDP per capita.

Table 1: Female participation and corruption: Zero effect once country fixed-effects are introduced. 1998-2014.

Dependent variable: CPI	(1) OLS	(2) OLS	(3) FE	(4) OLS	(5) OLS	(6) FE
WIP	0.076***	0.023***	**0.003**			
	(0.016)	(0.007)	**(0.005)**			
FLFP				0.015**	0.009**	**-0.015**
				(0.007)	(0.004)	**(0.009)**
Ln GDP p.c.		-3.027***	1.286		-2.949***	1.200
		(0.426)	(1.003)		(0.486)	(0.961)
Ln GDP p.c. squared		0.247***	-0.015		0.245***	-0.024
		(0.026)	(0.068)		(0.030)	(0.064)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Country FE			Yes			Yes
# of observations	2350	2302	2302	2443	2389	2389
# of countries	177	177	177	177	177	177
R^2	0.152	0.769	0.147	0.032	0.765	0.135

Notes: Robust standard errors clustered at the country level are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

However, once country fixed-effects are included in the analysis, the observed effect disappears entirely for both measures of female participation in society (coefficients highlighted in bold). As shown in column (3), the coefficient for the fraction of women in parliament becomes insignificant on conventional levels of statistical relevance and decreases markedly to a relatively precisely estimated zero effect (coefficient of 0.003). When focusing on women in the labor force as the explanatory variable of interest, even a negative coefficient emerges (column 6). These results are relevant: Once we control for country-specific heterogeneity, there exists no association between female participation in society and corruption.

IV.2 Making sense of the evidence: The importance of culture

The previous results suggest that the relationship between gender and corruption is mediated by a time-invariant source of heterogeneity across countries. Such a factor may influence both a country's level of corruption and the participation of women in politics and the labor force. Cultural, institutional, or geographical characteristics are the most obvious candidates for time-invariant factors. As institutions, and more specifically democracy, have been shown to affect the association

between gender and corruption (Sung 2003; Esarey and Chirillo 2013), we consider them as a potentially relevant source of cross-country heterogeneity. As our institutional variable, we employ the *polity2* index. We also account for trade openness, region fixed-effects, a binary indicator for landlocked countries and a tropical climate index to capture differences across countries due to geographic conditions. Regarding cultural aspects, we include Hofstede's four main cultural dimensions, i.e., individualism, masculinity, uncertainty avoidance, and power distance. Table 2 investigates whether any of these country-specific variables are responsible for the zero effect estimated in the fixed-effects regressions in Table 1, columns (3) and (6).

Table 2 shows that while a positive correlation between gender and the absence of corruption holds in the pooled estimation when including institutional and geographic factors (columns 1, 2 for WIP and 6, 7 for FLFP), the association entirely disappears once cultural variables are introduced in columns (3) and (8).[9] Thus, culture turns out as a valid candidate, systematically affecting corruption and women's representation in society. More precisely, the results of columns (4) and (5), as well as columns (9) and (10), indicate that higher power distance and masculinity in society facilitate corruption. At the same time, these variables are sufficient to render the effects of female participation statistically meaningless with coefficients close to zero. It is interesting to see that power distance or masculinity alone are sufficient to explain away any effect from our gender variables, i.e. when power distance is alone is included in specifications (4) and (9) the effect of women in society vanishes and the same holds when masculinity alone is included in specifications (5) and (10).

[9] Since data availability is limited for Hofstede's indices, the sample shrinks to 1,347 observations.

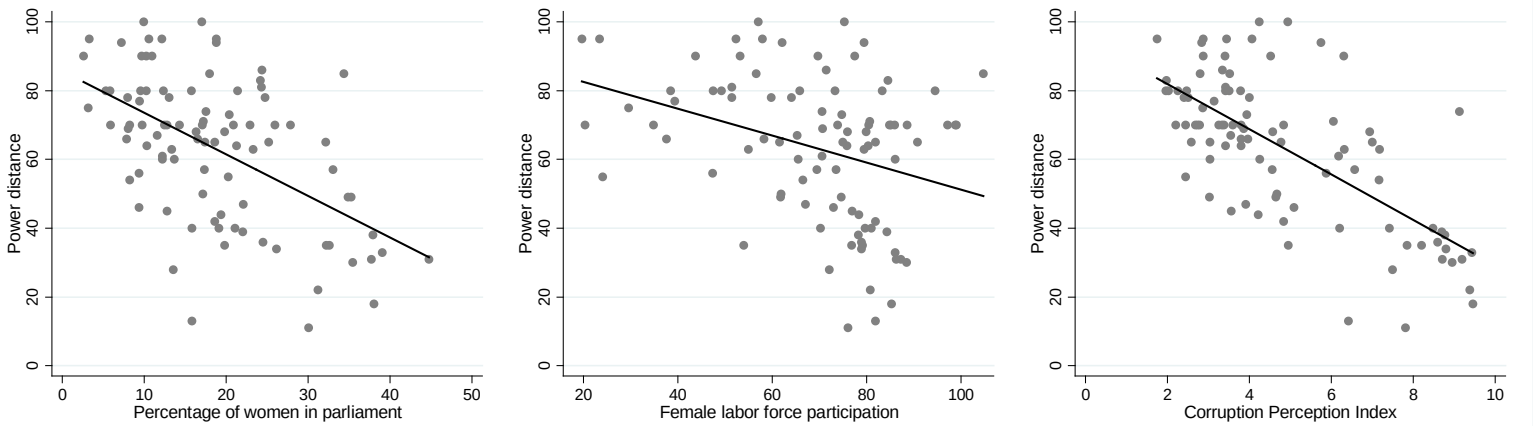
Table 2: Women, culture and corruption: Power distance and masculinity render the effect of female participation in politics and the labor market statistically insignificant. 1998-2014.

	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS	(6) OLS	(7) OLS	(8) OLS	(9) OLS	(10) OLS
WIP	0.029***	0.029***	**0.004**	**0.017**	**0.016**					
	(0.007)	(0.011)	**(0.010)**	**(0.011)**	**(0.011)**					
FLFP						0.009*	0.017*	**0.004**	**0.012**	**0.011**
						(0.005)	(0.009)	**(0.008)**	**(0.010)**	**(0.008)**
Ln GDP p.c.	-2.430***	-2.023**	-1.590**	-1.683**	-1.941***	-2.517***	-1.975**	-1.509**	-1.502**	-1.785**
	(0.488)	(0.872)	(0.672)	(0.732)	(0.669)	(0.553)	(0.803)	(0.707)	(0.725)	(0.691)
Ln GDP p.c. squared	0.211***	0.193***	0.166***	0.170***	0.197***	0.220***	0.194***	0.162***	0.161***	0.190***
	(0.029)	(0.049)	(0.039)	(0.042)	(0.039)	(0.033)	(0.046)	(0.041)	(0.041)	(0.040)
Polity2	0.048***	0.034*				0.048***	0.029			
	(0.012)	(0.020)				(0.014)	(0.021)			
Openness	0.003	0.003				0.002	0.003			
	(0.002)	(0.002)				(0.002)	(0.002)			
Landlocked dummy	0.084	-0.012				0.055	-0.191			
	(0.161)	(0.277)				(0.159)	(0.263)			
Tropical climate	-0.363	-0.545				-0.410	-0.515			
	(0.287)	(0.395)				(0.312)	(0.436)			
Uncertainty avoidance			-0.005					-0.005		
			(0.005)					(0.005)		
Individualism			0.008					0.008		
			(0.008)					(0.008)		
Power distance			-0.012**	-0.018***				-0.012**	-0.019***	
			(0.005)	(0.005)				(0.005)	(0.006)	
Masculinity			-0.020***		-0.020***			-0.020***		-0.021***
			(0.006)		(0.005)			(0.005)		(0.005)
Region FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
# of observations	1,987	1,317	1,317	1,317	1,317	2,057	1,317	1,317	1,317	1,317
# of countries	152	90	90	90	90	152	90	90	90	90
R^2	0.819	0.812	0.843	0.817	0.827	0.807	0.807	0.843	0.816	0.826

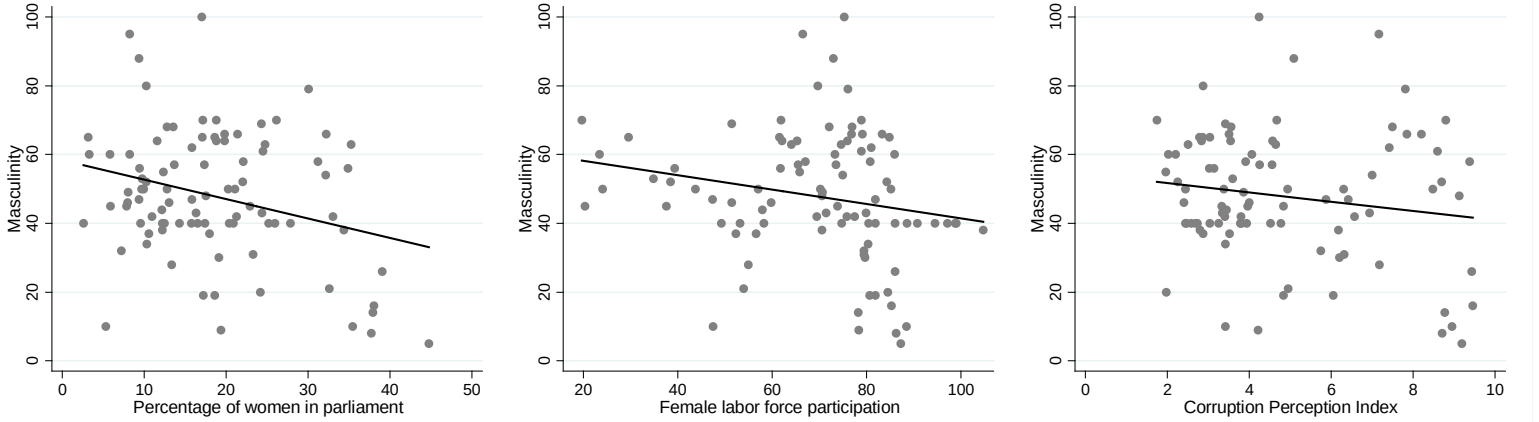
Notes: Dependent variable: CPI. Robust standard errors clustered at the country level are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Figure 2 helps to make sense of the statistically insignificant effects of women in the public sphere on corruption, once cultural factors are introduced. Power distance is negatively correlated with both measures of female participation and with the CPI. The same holds for masculinity. Thus, analyses omitting power distance or masculinity, respectively, overestimate the effect of female participation on the absence of corruption.

Figure 2: Correlations: Women, culture, and corruption (1998-2014 average)



PANEL A. Correlation of power distance with women in parliament, female labor force participation, and corruption



PANEL B. Correlation of masculinity with women in parliament, female labor force participation, and corruption

IV.3 Addressing endogeneity concerns with respect to culture and corruption

A common concern in the literature relates to endogeneity issues that may affect the link between culture and corruption. It is possible that societies characterized by high power distance or masculinity are also more corrupt because of other dynamics. For instance, both phenomena may be driven by an additional factor, such as historical development or institutional arrangements previously not considered. To alleviate such concerns as well as possible, we present instruments for our cultural variables. In our choices, we follow Gorodnichenko and Roland (2011, 2016) who establish genetic distance as an instrument for Hofstede's cultural dimensions. More specifically, we use the Mahalanobis distance of frequency of blood types A and B in a given country relative to the frequency of blood types A and B in the UK.[10] The reasoning for the validity of this instrument is as follows: Parents transmit both their genes and their cultural values to their descendants. Populations that mix should consequently be genetically and culturally similar as in both cases the transmission mechanism is at work. Thus, measures of genetic distance can be seen as a proxy for differences in cultural values and serves as a relevant instrument for culture. The exclusion restriction is likely to be satisfied, as there is no identified direct genetic determinant of corruption.

Table 3 presents the results of the instrumental variable regressions for power distance and provides further evidence for our central finding that culture mitigates the relationship between female representation and corruption. As we have for genetic distance only one observation per country, we average our data over the period from 1998 to 2014. Throughout Table 3, we only consider those countries for which Hofstede's cultural dimensions are available to ensure the comparability of our results, in columns (1) and (5) we only include the variable women in parliament and female labor force participation, respectively.

[10] Data is available on genetic distance to both the UK and the US and we follow Gorodnichenko and Roland's (2016) recommendation that the UK is more suitable as a reference country as it is genetically more homogeneous.

Table 3: Culture and corruption regressions – Power distance instrumented with genetic distance

	(1) OLS	(2) OLS	(3) IV	(4) IV	(5) OLS	(6) OLS	(7) IV	(8) IV
WIP	0.107***	**0.029**	**-0.049**	**-0.058**				
	(0.023)	**(0.020)**	**(0.031)**	**(0.039)**				
FLFP					0.030***	**0.003**	**-0.015**	**-0.012**
					(0.011)	**(0.009)**	**(0.011)**	**(0.012)**
Power distance		-0.065***	-0.130***	-0.148***		-0.071***	-0.119***	-0.132***
		0.009	(0.024)	(0.045)		(0.009)	(0.020)	(0.038)
Polity2				-0.119				-0.106
				(0.079)				(0.075)
Openness				0.010*				0.010*
				(0.006)				(0.006)
Landlocked dummy				-0.605				-0.324
				(0.710)				(0.669)
Tropical climate				-0.530				-0.506
				(0.749)				(0.773)
# of observations	88	88	88	88	88	88	88	88
F-Stat (first stage)			23.195	8.604			31.416	9.364

Notes: Dependent variable: CPI. Data is averaged over 1998-2014. In columns (3), (4), (7) and (8), power distance is instrumented with Mahalanobis distance of frequency of blood types A and B in a given country relative to the frequency of blood types A and B in the UK from Gorodnichenko and Roland (2011, 2016). Robust standard errors are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Both independent variables show a positive association with corruption (columns 1 and 5) that vanishes once the cultural factor power distance is introduced (columns 2 and 6). Power distance is significant at the one percent level and produces a negative effect on the absence of corruption.

Specifications (3), (4), (7) and (8) report the IV regressions for our two measures of female participation in politics and the labor market. When power distance is instrumented with genetic distance, it remains statistically highly significant and doubles in size.[11] Confirming previous results, both gender variables lose their explanatory power when instrumented power distance is included. Interestingly, the sign of their coefficient even turns negative, suggesting, if anything, that once culture is accounted for, the association between female participation and absence of

[11] With first stage F-statistics ranging from 8.5 to 31.4 depending on the control variables used, our instrument is adequate for power distance, though rather weak in some specifications (see Staiger and Stock 1997 and Stock and Yogo 2005 for tests on weak instruments).

corruption is *negative*. These findings underline the importance of including cultural factors into the analysis of the link between gender and corruption.

When re-estimating Table 3 with masculinity as the main cultural attribute, we obtain similar results for the variables women in parliament and the female labor force participation rate, i.e., the statistical relevance of women in the public sphere vanishes once masculinity is instrumented. However, the instrument suggested by Gorodnichenko and Roland (2011; 2016) is too weak for masculinity which is why we restrict our presentation to power distance.

Findings from our fixed-effects estimations, as well as our cross-country OLS and IV analysis including culture so far provide evidence that there exists no causal relationship between the representation of women in society and corruption. In fact, there does not even seem to be an association between the two variables once differences in culture are accounted for.

In an appendix, we present further strategies to deal with potential endogeneity issues concerning the share of women in parliament and the labor force, as well as culture (see Table A2).[12] All analyses confirm our previous findings. There is virtually no effect of the share of women in parliament and the labor force on corruption in terms of statistical significance and magnitude. The positive effect of power distance on corruption remains significant.

IV.4 Further robustness tests and extensions

We conduct numerous tests in an appendix, which all support the interpretation of our findings. First, we include additional control variables used in the literature on corruption (Dollar,

[12] We use the log of years of agriculture in 1500 BC to instrument female representation. Hansen, Jensen and Skovsgaard (2015) argue that societies with a long history of agriculture developed stronger male-dominated norms and cultural beliefs due to historical gender division of labor. Thus, women in agricultural societies became more dependent on men as compared to hunter-gatherer societies where both men and women contributed to the provision of food (Iversen and Rosenbluth 2010). Being persistent over time, these patriarchal values still influence contemporary gender roles. Conditional on current economic development and geographical controls, an early Neolithic revolution does not only have a significant negative effect on today's female labor force participation but also on the introduction of female suffrage and on the number of women in parliament.

Fisman and Gatti 2001; Svensson 2005; Treisman 2007) into our framework in Tables A3 and A4. In addition to the polity2 index, we add civil liberties and a press freedom index as institutional controls that might influence the interplay between culture, gender, and corruption. Furthermore, we control for historical factors. Following La Porta, Lopez-de-Silanes and Shleifer (2008), we add a set of dummy variables to control for a country's legal origin. We also include a binary variable indicating whether a country was colonized. As Treisman (2000) find that traditionally Protestant countries are perceived to be less corrupt, we control for the share of Protestants in the total population.[13] To account for the possibility that the degree of ethnolinguistic diversity could simultaneously affect culture and the dynamics of political networks, we add the fractionalization index provided by Alesina et al. (2003). Finally, we include the average years of schooling as a measure of educational attainment.

Our main findings and interpretations remain fully consistent after the inclusion of all of these additional controls. Specifically, the effects of both measures of female representation remain statistically indistinguishable from zero, while power distance produces a negative and statistically powerful effect on the absence of corruption. When masculinity is included as the cultural dimension of interest, we also derive consistent results. Masculinity has a significantly positive association with corruption, and its inclusion renders our measures of female participation in society insignificant.

Further, we use the World Bank's Control of Corruption index (CoC) as an alternative measure for corruption to ensure that our findings are not specific to the CPI (see Table A5). The statistically significant effect of the share of women in parliament and the labor force is present in a cross-sectional setting, but entirely vanishes once we add country fixed-effects (and even the sign changes). The inclusion of power distance and masculinity affects the relationship between women

[13] See also Gutmann (2015) for the links between corruption and religious organizations.

and corruption similarly as the inclusion of fixed-effects. Again, we estimate relatively precise zero effects of female participation on corruption when culture is accounted for. Instrumenting power distance with blood distance also yields similar results irrespective of the corruption measure used.

Finally, we rule out the possibility of limited comparability of the CPI over time, as from 2012 onwards a different methodology has been used to construct the CPI. In our final robustness test in Table A6, we check the restricted sample with data until 2011. All findings support our interpretations.

V. CONCLUDING REMARKS AND POLICY CONSEQUENCES

Are women the "fairer sex"? Maybe. But our empirical results suggest no statistically significant association between female participation in society and corruption, once we account for country-specific time-invariant factors.

Analyzing pure cross-sectional data, we confirm the benchmark results of the literature: Higher shares of women in politics and the labor force are associated with lower levels of corruption. However, once country fixed-effects are incorporated, the observed relationship disappears entirely, i.e., an increase in female participation in society over time is *not associate*d with a reduction in corruption. This result emerges both for the statistical significance and the magnitude of the alleged correlation.

Interestingly, the initially observed association between the share of women in politics and the labor market and corruption prevails when controlling for institutional and geographical variables. However, cultural attributes have been neglected in previous research. Employing Hofstede's cultural dimensions, power distance and masculinity are strongly correlated with both female representation and corruption levels. Once these cultural variables are taken into account, we obtain relatively precisely estimated zero effects of our measures of female participation on

corruption. Thus, power distance and masculinity are sufficient to render the link between female representation and corruption statistically and socially meaningless.

Conducting instrumental variable regressions and extensive robustness checks, we find additional support for our hypothesis that cultural characteristics are the driving forces behind the relationship between gender and corruption.

Our results suggest that focusing on pure numbers of women in politics and the workplace cannot directly be seen as an effective tool to fight corruption. Nevertheless, more substantive representation of women in politics and the labor force may play a role in shaping values and beliefs within a society. In the long-run, increasing female participation could reduce the prevalence of masculine values in society and thus reduce cultural features that promote corrupt behavior. Furthermore, promoting gender equality in politics and at the workplace could help to loosen traditional hierarchies and male-dominated networks, thus reducing power distance within society.

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APPENDIX

Table A1: Descriptive statistics

Variable	N	Mean	SD	Min	Max	Source	Description
% women in parliament	3,014	15.77	10.68	0	63.8	Inter-Parliamentary Union (IPU)	Percentage of seats occupied by women in the lower and upper chamber
Female to male labor force participation rate	3,162	69.01	19.81	15.42	107.12	International Labor Organization (ILO)	Number of women divided by number of men in the labor force (population ages 15 and older that is economically active)
CPI	2,480	4.23	2.17	0.4	10	Transparency International	Corruption Perceptions Index, measuring the absence of corruption. 0 (highly corrupt) - 10 (very clean)
CoC	3,017	-0.02	1.00	-1.92	2.59	World Bank Worldwide Governance Indicators	Control of Corruption index; -2.5 (highly corrupt) – 2.5 (very clean)
GDP per capita (log)	3,839	8.15	1.63	4.24	11.97	World Development Indicators, World Bank	Log of GDP per capita in constant 2011 international $, PPP
Polity2 index	3,224	3.40	6.50	-10	10	Polity IV Project, Center for Systematic Peace	Regime indicator, combining democracy and autocracy indices. -10 (highly autocratic) - 10 (highly democratic)
Civil liberties	3,249	3.33	1.84	1	7	Freedom House	Measure of freedom of expression, assembly, association, education, and religion. 1 (high degree of civil liberties) - 7 (no civil liberties)
Free press	3,746	46.49	24.34	0	100	Freedom House	Measure of overall press freedom. 1 (the most free) - 100 (the least free)
Openness	3,656	90.04	52.93	0.02	531.74	The World Bank	Sum of imports and exports of goods and services (% of GDP)
Schooling	1,947	7.69	3.10	1.10	13.10	UNDP	Average number of years of education received by people ages 25 and older
Ethnolinguistic fractionalization	3,500	0.44	0.26	0	0.93	Alesina et al. (2003)	Degree of ethno-linguistic fractionalization. 0 (homogenous) - 1 (highly diverse)
Protestants	3,540	0.14	0.21	0	0.90	Alesina, Giuliano and Nunn (2013)	Share of protestants in the total population
Tropical climate	3,480	0.74	0.42	0	1	Alesina, Giuliano and Nunn (2013)	Fraction of land in the tropics or subtropics
Landlocked dummy	4,357	0.20	0.40	0	1	The World Bank	Binary variable indicating whether a country is landlocked
Region dummies						The World Bank	Set of dummy variables for seven world regions
Legal origin						La Porta, Lopez-de-Silanes and Shleifer (2008)	Set of dummy variables for UK, French, German, Scandinavian, and Socialist legal origin
Colonial dummy	3,600	0.63	0.48	0	1	Teorell et al. (2013)	Dummy variable indicating whether a country used to be a colony
Power distance	1,840	63.27	21.19	11	100	The Hofstede Centre	Degree to which less powerful members of society accept and expect that power is distributed unequally
Uncertainty avoidance	1,840	63.71	21.32	8	100	The Hofstede Centre	Society's tolerance when it comes to ambiguity and uncertainty
Individualism	1,840	40.29	22.37	6	91	The Hofstede Centre	Degree of interdependence between the members of society
Masculinity	1,840	47.88	18.76	5	100	The Hofstede Centre	Social preference for male values generating a more competitive social environment
Genetic distance	154	1.74	0.81	0.00	3.59	Gorodnichenko and Roland (2016)	Mahalanobis distance of frequency of blood types A and B in a given country relative to the frequency of blood types A and B in the UK
Years agriculture	152	4,783.63	2412.08	362	10,500	Putterman (2008)	log years of agriculture in 1500 CE (years since the Neolithic revolution)

Table A2: Female representation instrumented with years since Neolithic Revolution

	(1) OLS	(2) OLS	(3) IV WIP	(4) IV WIP	(5) IV WIP PD	(6) OLS	(7) OLS	(8) IV FLFP	(9) IV FLFP	(10) IV FLFP PD
WIP	0.108***	0.033	-0.161	0.017	-0.179					
	(0.023)	(0.021)	(0.195)	(0.098)	(0.247)					
FLFP						0.029**	0.003	-0.035	0.004	-0.032
						(0.011)	(0.010)	(0.032)	(0.024)	(0.029)
Power distance (PD)		-0.061***	-0.108**	-0.053***	-0.179*		-0.068***	-0.079***	-0.056***	-0.128***
		(0.009)	(0.051)	(0.018)	(0.097)		(0.009)	(0.012)	(0.007)	(0.037)
Polity2				0.007	-0.122				0.006	-0.085
				(0.036)	(0.095)				(0.037)	(0.068)
Openness				0.012***	0.010				0.012***	0.008
				(0.003)	(0.007)				(0.003)	(0.006)
Landlocked dummy				-0.481	-0.893				-0.590	-0.084
				(0.523)	(1.003)				(0.563)	(0.747)
Tropical climate				-1.238**	-0.873				-1.265**	-0.751
				(0.590)	(0.833)				(0.499)	(0.694)
# of obs.	87	87	87	87	87	87	87	87	87	87
F-Stat (first stage PD)					8.523					9.393
F-Stat (first st. WIP/FLFP)			1.934	4.293	4.293			8.611	13.808	13.808

Notes: Dependent variable: CPI. Data is averaged over 1998-2014. In columns (3), (4), (5), (8), (9) and (10) WIP and FLFP, respectively, is instrumented with the log years since the Neolithic revolution from Putterman (2006). Additionally in columns (5) and (10), power distance is instrumented with Mahalanobis distance of frequency of blood types A and B in a given country relative to the frequency of blood types A and B in the UK from Gorodnichenko and Roland (2011, 2016). To obtain the F-statistics of the first stage, we ran the regressions reported in columns (5) and (10) separately with just one variable instrumented. Robust standard errors are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A3: Robustness tests for power distance

	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS	(6) OLS	(7) OLS	(8) OLS	(9) OLS	(10) OLS
WIP	0.014	0.017	0.018	0.010	0.015					
	(0.010)	(0.011)	(0.011)	(0.009)	(0.009)					
FLFP						0.003	0.003	0.011	0.005	0.009
						(0.007)	(0.009)	(0.007)	(0.007)	(0.007)
Power distance	-0.020***	-0.019***	-0.017***	-0.015**	-0.017***	-0.022***	-0.022***	-0.018***	-0.016**	-0.018***
	(0.005)	(0.005)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Ln GDP p.c.	-2.559***	-2.014***	-2.315***	-2.504***	-3.537***	-2.508***	-2.110***	-2.003***	-2.337***	-3.066***
	(0.658)	(0.710)	(0.634)	(0.621)	(0.699)	(0.711)	(0.706)	(0.679)	(0.613)	(0.797)
Ln GDP p.c. Squared	0.201***	0.186***	0.199***	0.205***	0.259***	0.198***	0.192***	0.183***	0.196***	0.235***
	(0.041)	(0.041)	(0.038)	(0.038)	(0.042)	(0.043)	(0.040)	(0.040)	(0.038)	(0.045)
Institutions & Openness	Yes					Yes				
Geography		Yes					Yes			
History			Yes					Yes		
Population				Yes					Yes	
Education					Yes					Yes
Region FE		Yes					Yes			
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
# of observations	1305	1305	1305	1305	885	1305	1305	1305	1305	885
# of countries	89	89	89	89	89	89	89	89	89	89
R^2	0.827	0.831	0.819	0.819	0.804	0.824	0.827	0.819	0.819	0.804

Notes: Dependent variable: CPI. The following control variables are included. *Institutions & Openness:* Polity2 index, civil liberties, free press index, imports and exports as share of GDP. *Geography:* Landlocked dummy, tropical climate, region fixed effects. *History:* Legal origin, colony dummy. *Population:* Share of Protestants in total population, ethnolinguistic fractionalization. *Education:* Average years of schooling. Robust standard errors clustered at the country level are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A4: Robustness tests for masculinity

	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS	(6) OLS	(7) OLS	(8) OLS	(9) OLS	(10) OLS
WIP	0.015	0.016	0.025**	0.011	0.015					
	(0.011)	(0.010)	(0.012)	(0.010)	(0.011)					
FLFP						0.004	0.003	0.012	0.007	0.010
						(0.007)	(0.008)	(0.008)	(0.007)	(0.007)
Masculinity	-0.012**	-0.022***	-0.016***	-0.012**	-0.016***	-0.014***	-0.024***	-0.017***	-0.013***	-0.017***
	(0.005)	(0.006)	(0.006)	(0.005)	(0.005)	(0.005)	(0.005)	(0.006)	(0.005)	(0.005)
Ln GPD p.c.	-3.122***	-1.703**	-2.704***	-2.875***	-4.222***	-3.081***	-1.802**	-2.468***	-2.647***	-3.779***
	(0.612)	(0.684)	(0.630)	(0.564)	(0.641)	(0.688)	(0.732)	(0.684)	(0.601)	(0.795)
Ln GDP p.c. Squared	0.241***	0.181***	0.230***	0.234***	0.302***	0.240***	0.190***	0.220***	0.221***	0.281***
	(0.038)	(0.040)	(0.038)	(0.034)	(0.037)	(0.041)	(0.042)	(0.041)	(0.036)	(0.044)
Institutions & Openness	Yes					Yes				
Geography		Yes					Yes			
History			Yes					Yes		
Population				Yes					Yes	
Education					Yes					Yes
Region FE		Yes					Yes			
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
# of observations	1,305	1,305	1,305	1,305	885	1,305	1,305	1,305	1,305	885
# of countries	89	89	89	89	89	89	89	89	89	89
R^2	0.820	0.841	0.820	0.818	0.806	0.818	0.837	0.817	0.818	0.806

Notes: Dependent variable: CPI. The following control variables are included. *Institutions & Openness:* Polity2 index, civil liberties, free press index, imports and exports as share of GDP. *Geography:* Landlocked dummy, tropical climate, region fixed effects. *History:* Legal origin, colony dummy. *Population:* Share of Protestants in total population, ethnolinguistic fractionalization. *Education:* Average years of schooling. Robust standard errors clustered at the country level are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A5: Main findings using alternative measure of corruption: Robustness tests with CoC index

	(1) OLS	(2) FE	(3) OLS	(4) OLS	(5) IV	(6) IV	(7) OLS	(8) FE	(9) OLS	(10) OLS	(11) IV	(12) IV
WIP	0.014***	0.000	0.013***	0.003	-0.023	-0.027						
	(0.005)	(0.002)	(0.005)	(0.004)	(0.015)	(0.019)						
FLFP							0.010***	0.008	0.010**	0.005	-0.006	-0.005
							(0.003)	(0.005)	(0.004)	(0.004)	(0.005)	(0.005)
Ln GDP p.c.	-1.595***	0.476	-0.818*	-0.769**			-1.274***	0.660	-0.758*	-0.666*		
	(0.288)	(0.455)	(0.412)	(0.304)			(0.312)	(0.431)	(0.390)	(0.348)		
Ln GDP p.c. squared	0.125***	-0.001	0.084***	0.081***			0.107***	-0.010	0.082***	0.076***		
	(0.017)	(0.028)	(0.023)	(0.018)			(0.019)	(0.026)	(0.022)	(0.020)		
Polity2			0.008			-0.051			0.010			-0.045
			(0.010)			(0.038)			(0.010)			(0.036)
Openness			0.001			0.005*			0.001			0.004
			(0.001)			(0.003)			(0.001)			(0.003)
Landlocked dummy			0.100			-0.239			0.007			-0.114
			(0.134)			(0.332)			(0.120)			(0.312)
Tropical climate			-0.190			-0.267			-0.166			-0.252
			(0.182)			(0.347)			(0.189)			(0.361)
Power distance				-0.006**	-0.061***	-0.069***				-0.006**	-0.056***	-0.061***
				(0.002)	(0.012)	(0.021)				(0.003)	(0.009)	(0.018)
Masculinity				-0.009***						-0.009***		
				(0.003)						(0.002)		
Country FE		Yes						Yes				
Region FE			Yes	Yes					Yes	Yes		
Times FE	Yes	Yes	Yes	Yes			Yes	Yes	Yes	Yes		
# of obs.	1,237	1,237	1,237	1,237	88	88	1,284	1,284	1,284	1,284	88	88
# of countries	90	90	90	90	88	88	90	90	90	90	88	88
R^2	0.779	0.096	0.812	0.838	0.194	0.138	0.783	0.105	0.812	0.839	0.278	0.261
F-Stat (first stage)					23.195	8.604					31.416	9.364

Notes: Dependent variable: CoC. Robust standard errors clustered at the country level are reported in parentheses. In columns (5), (6), (11) and (12) power distance is instrumented with blood distance. Data averaged over 1998-2014 is used for the IV regressions. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A6: Main findings using only data until 2011

	(1) OLS	(2) FE	(3) OLS	(4) OLS	(5) IV	(6) IV	(7) OLS	(8) OLS	(9) FE	(10) OLS	(11) IV	(12) IV
WIP	0.033***	0.001	0.035***	0.009	-0.049	-0.058						
	(0.011)	(0.008)	(0.011)	(0.011)	0.031	0.039						
FLFP							0.015*	-0.012	0.017*	0.006	-0.015	-0.012
							(0.008)	(0.011)	(0.009)	(0.009)	0.011	0.012
Ln GDP p.c.	-3.313***	1.950	-2.154**	-1.684**			-3.027***	1.598	-2.159***	-1.606**		
	(0.650)	(1.254)	(0.829)	(0.659)			(0.683)	(1.327)	(0.792)	(0.706)		
Ln GDP p.c. squared	0.263***	-0.062	0.200***	0.175***			0.251***	-0.049	0.207***	0.172***		
	(0.039)	(0.083)	(0.047)	(0.039)			(0.041)	(0.083)	(0.045)	(0.041)		
Polity2			0.040*			-0.119			0.035			-0.106
			(0.021)			0.079			(0.022)			0.075
Openness			0.004*			0.010*			0.004*			0.010*
			(0.002)			0.006			(0.002)			0.006
Landlocked dummy			-0.055			-0.605			-0.242			-0.324
			(0.279)			0.710			(0.265)			0.669
Tropical climate			-0.510			-0.530			-0.510			-0.506
			(0.380)			0.749			(0.440)			0.773
Power distance				-0.018***	-0.130***	-0.148***				-0.018***	-0.119***	-0.132***
				(0.005)	0.024	0.045				(0.006)	0.020	0.038
Masculinity				-0.018***						-0.019***		
				(0.005)						(0.005)		
Country FE		Yes							Yes			
Region FE			Yes	Yes					Yes	Yes		
Times FE	Yes	Yes	Yes	Yes			Yes	Yes	Yes	Yes		
# of obs.	1,070	1,070	1,070	1,070	88	88	1,104	1,104	1,104	1,104	88	88
# of countries	90	90	90	90	88	88	90	90	90	90	88	88
R^2	0.789	0.058	0.824	0.847	0.219	0.144	0.784	0.063	0.817	0.848	0.301	0.272
F-Stat (first stage)					23.195	8.604					31.416	9.364

Notes: Dependent variable: CPI. Only observations until 2011 included. Robust standard errors clustered at the country level are reported in parentheses. In columns (5), (6), (11) and (12) power distance is instrumented with blood distance. Data averaged over 1998-2011 is used for the IV regressions. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A7: Sample countries

AFRICA	ASIA	AMERICA	EUROPE	OCEANIA
Algeria	Afghanistan	Argentina	Albania	Australia
Angola	Bahrain	Bahamas, The	Armenia	Fiji
Benin	Bangladesh	Barbados	Austria	New Zealand
Botswana	Bhutan	Belize	Azerbaijan	Papua New
Burkina Faso	Cambodia	Bolivia	Belarus	Guinea
Burundi	China	Brazil	Belgium	Samoa
Cameroon	India	Canada	Bosnia and Herzegovina	Tonga
Cape Verde	Indonesia	Chile	Bulgaria	Vanuatu
Central African Repub	Iran, Islamic Rep.	Colombia	Croatia	
Chad	Iraq	Costa Rica	Cyprus	
Comoros	Israel	Cuba	Czech Republic	
Congo, Dem. Rep.	Japan	Dominican Republic	Denmark	
Congo, Rep.	Jordan	Ecuador	Estonia	
Cote d'Ivoire	Kazakhstan	El Salvador	Finland	
Djibouti	Korea, Dem. Rep.	Guatemala	France	
Egypt, Arab Rep.	Korea, Rep.	Guyana	Georgia	
Equatorial Guinea	Kuwait	Haiti	Germany	
Eritrea	Kyrgyz Republic	Honduras	Greece	
Ethiopia	Lao PDR	Jamaica	Hungary	
Gabon	Lebanon	Mexico	Iceland	
Gambia, The	Malaysia	Nicaragua	Ireland	
Ghana	Maldives	Panama	Italy	
Guinea	Mongolia	Paraguay	Latvia	
Guinea-Bissau	Nepal	Peru	Lithuania	
Kenya	Oman	St. Lucia	Luxembourg	
Lesotho	Pakistan	St. Vincent and the Grenadines	Macedonia, FYR	
Libya	Philippines	Sudan	Malta	
Madagascar	Qatar	Suriname	Moldova	
Malawi	Russian Federation	Trinidad and Tobago	Montenegro	
Mali	Saudi Arabia	United States	Netherlands	
Mauritania	Singapore	Uruguay	Norway	
Mauritius	Sri Lanka	Venezuela, RB	Poland	
Morocco	Timor-Leste		Portugal	
Mozambique	Tajikistan		Romania	
Namibia	Thailand		Serbia	
Niger	Turkey		Slovak Republic	
Nigeria	Turkmenistan		Slovenia	
Rwanda	United Arab Emirates		Spain	
Sao Tome and Principe	Uzbekistan		Sweden	
Senegal	Vietnam		Switzerland	
Sierra Leone	Yemen, Rep.		Ukraine	
South Africa			United Kingdom	
Swaziland				
Tanzania				
Togo				
Tunisia				
Uganda				
Zambia				
Zimbabwe				

Table A8: Sample countries when Hofstede's culture dimensions are introduced

AFRICA	ASIA	AMERICA	EUROPE	OCEANIA
Angola	Bangladesh	Argentina	Albania	Australia
Burkina Faso	Bhutan	Brazil	Austria	Fiji
Ethiopia	China	Canada	Belgium	New Zealand
Ghana	India	Chile	Bulgaria	
Kenya	Indonesia	Colombia	Croatia	
Libya	Iraq	Costa Rica	Czech Republic	
Malawi	Israel	Dominican Republic	Denmark	
Morocco	Japan	Ecuador	Estonia	
Mozambique	Jordan	El Salvador	Finland	
Namibia	Kuwait	Guatemala	France	
Nigeria	Lebanon	Honduras	Germany	
Senegal	Malaysia	Jamaica	Greece	
Sierra Leone	Nepal	Mexico	Hungary	
South Africa	Pakistan	Panama	Ireland	
Tanzania	Philippines	Peru	Italy	
Zambia	Saudi Arabia	Suriname	Latvia	
	Singapore	Trinidad and Tobago	Lithuania	
	Sri Lanka	United States	Luxembourg	
	Thailand	Uruguay	Netherlands	
	Turkey		Norway	
	United Arab Emirates		Poland	
	Vietnam		Portugal	
			Romania	
			Serbia	
			Slovak Republic	
			Slovenia	
			Spain	
			Sweden	
			Switzerland	
			United Kingdom	