The Culture of Corruption across Generations:
An Empirical Study of Bribery Attitudes and Behavior

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Abstract

Is culture a lasting driver of corruption? Recent scholarship suggests that any influence of culture on corruption is short-lived. I focus on one subcomponent of corruption-related culture – normative attitudes towards bribery – and study whether such attitudes persist through generational change. I compare individuals who share an institutional environment but whose parents were born abroad and find evidence of intergenerational persistence: average attitudes towards bribery in the parental country of ancestry explain variation in attitudes towards bribery across individuals in the study sample. The norms associated with the mother's ancestry matter more than those associated with the father's, consistent with family-based mechanisms of attitudinal transmission. Relatedly, persistence is stronger for those second-generation immigrants who speak the language of their ancestors at home. I find no evidence that bribery attitudes are transmitted as part of a broader bundle of norms including generalized trust, or attitudes towards the law. Finally, bribery attitudes are associated with a measure of bribing behavior. These results suggest that cultural factors deserve close attention in corruption scholarship and policy.

Keywords: corruption, bribery, culture, intergenerational transmission,

norms, attitudes.

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1. Motivation and Overview

Corruption – the abuse of political power for private ends – is widespread, but its causes remain a subject of ongoing debate. Scholarship about the drivers of corruption and anti-corruption policy have largely leaned on the Becker-Stigler model of corruptible enforcers, where individual choices about whether to behave corruptly arise essentially from a comparison of material benefits and costs, the latter weighted by the probability of detection (Becker and Stigler 1974; Rose-Ackerman 1978). In consequence, much attention has focused on institutional factors – such as monitoring arrangements, judicial enforcement, contractual structures, and electoral rules – that affect the variables in the model (e.g., Alt and Lassen 2003; Person, Tabellini, and Trebbi 2003; Chang and Golden 2007).

The notion that ideas, attitudes, beliefs, and norms – often referred to as "culture" – are also important causes of corruption has, in contrast, received considerably less attention. The intuition that culture is an important and lasting driver of corruption is articulated in various classics of social science (Weber 1930; Banfield 1956; Huntington 1968). In the economics literature, culture has been defined as "those customary beliefs and values that ethnic, religious, and social groups transmit *fairly unchanged from generation to generation*" (Guiso et al 2006; emphasis added; see also Nunn 2012). The handful of contemporary studies that have explored the relationship between culture and corruption, however, find that any influence is at best short-lived, certainly

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shorter than an individual's lifetime.[1]

Despite such findings, there exist good conceptual and empirical reasons to suspect that culture can have a durable influence on corruption. A variety of models depict corruption as equilibrium behavior in a game with multiple equilibria (e.g., Andvig and Moene 1990; Hauk and Saez-Marti 2002; Persson, Rothstein, and Teorell 2013), where culture can function as an equilibrium selection device (Bardhan 2006). Culture has also been argued to function as a cause of institutions (Nunn 2012), which in turn have been associated with corruption (Alt and Lassen 2003 among many others). Students of less-developed regions, likewise, have pointed to the role of cultural norms and cultural change as key to understanding variation in corruption across bureaucracies (Evans 1995), and over time, as in Hong Kong's anti-corruption drive in the 1970s (Manion 2004). Even the distinguished sociologist William Julius Wilson acknowledged, going against the grain of his broader argument, that "some cultural traits may in fact take on a life of their own for a period of time and thereby become a constraining or liberating factor in the life of certain

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[1]Fisman and Miguel (2007) and Barr and Serra (2010) have documented that, for individuals who relocate abroad, individual corrupt behavior correlates with a corruption perceptions index in the person's country of origin. Such correlations, however, weaken or altogether disappear in a matter of years (Fisman and Miguel 2007; Barr and Serra 2010) or as a result of changes in enforcement or institutional structure (DeBacker et al 2012; Fisman and Miguel 2007).

individuals or groups" (1987, 138).[2]

Progress on this issue is of substantial academic and practical importance. If cultural influences on corruption are indeed ephemeral, or epiphenomenal to material costs and benefits, then the focus on material incentives and on the formal institutions that shape such incentives is well justified. If, on the other hand, cultural influences have "a life of their own," to borrow Wilson's phrase, then these ought to receive greater attention in corruption research and in public action. At stake is whether the understanding of corruption is exhausted in the study of institutional and contractual arrangements, or, alternatively, cultural factors deserve a place alongside them.

The present study is the first, to my knowledge, to empirically test for a longer-lasting persistence of corruption culture. Specifically, I study whether norms about the acceptability of corruption persist through generational change, as the above definition of culture by Guiso et al (2006) would require. For such a study to be feasible, of course, it is necessary to observe variation in corruption norms. Indeed, while in the eyes of many corruption is never acceptable, the data show that there are many others for whom corruption may sometimes be acceptable – perhaps in circumstances where a greater good is being served. A prominent Brazilian politician, for instance, famously leaned on the campaign slogan "Ademar steals, but he gets things done," a slogan that would surely be career-ending for a politician in Denmark, Britain, or the United

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[2]Wilson's central claim is, of course, is that over the long run, and as policy levers, external incentives matter more than culture.

States (see also Gachter and Shulz 2016).[3]

A major practical challenge in assessing whether corruption-related attitudes have lasting power is the fact that these are difficult to disentangle from structural or institutional factors. It is possible, for instance, that attitudes, ideas, and expectations relating to corruption merely reflect or rationalize the prevailing formal institutional incentives. Laws and formal institutions, after all, have been argued to shape values and norms (e.g., Hirschman 1986). In order to isolate attitudes from formal institutions, I compare individuals within a given institutional context who have potentially been exposed to different kinds of attitudinal influences by virtue of their ancestry. If normative attitudes indeed have a life of their own, then the attitudes of the individuals under study should bear some relationship to those of their respective ancestors. If, on the other hand, attitudes are epiphenomena of formal institutions, or if they are short-lived for some other reason (e.g., assimilation to local norms), then no ancestral influence should be discernible.

I utilize data from sixteen high-quality surveys in equally many European countries, drawn from the second wave of the European Social Survey (ESS), corresponding to 2004. I study individuals born in the country of survey whose parents were born abroad, and investigate whether a measure of average attitudes toward bribery in the parental country of ancestry is able to account for variation in respondent attitudes toward bribery. I find that average atti-

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[3]Ademar de Barros was mayor of Sao Paulo city, twice governor of Sao Paulo, and twice presidential candidate.

tudes toward bribery in the parents' country of origin account for significant variation in individual respondent attitudes.

The finding of a robust relationship between ancestry-level factors and respondent attitudes is remarkable in light of the geographical and generational distance and of other factors that militate against finding any relationship (to be discussed further below). The magnitude of the regression estimates implies that the difference in attitudes towards bribery between two Europeans, respectively with Slovakian and Danish/Norweigian ancestries but otherwise identical, is equivalent to approximately one-half to one standard deviation in the individual bribery attitudes variable in the sample. This finding supports the notion that corruption-related ideas, attitudes, and, more generally, cognitive orientations (all of which can be viewed as subcomponents of culture) have a lasting quality, and are neither clearly ephemeral nor obviously epiphenomenal to the formal structural and institutional factors – and the associated material incentives – that much prior research has emphasized. Instead, and in line with a growing body of behavioral social science (e.g., Dai et al 2016), my findings suggest that preferences over corruption are not adequately understood as defined exclusively over material costs and benefits.

I pursue various strategies to assess whether the association between ancestral and respondent attitudes is causal. First, the results are robust to controlling for a rich set of alternative potential causes of individual corruption attitudes that could also correlate with ancestral attitudes, including variables in all the following categories: human capital, income, parental traits, discrimination on the basis of race, discrimination on the basis of religion,

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and selection of migrants into different kinds of economic activity. Second, the results are robust to the inclusion of fixed effects for the country of residence, which account for country-level factors such as average tolerance for corruption, average corruption levels, or institutions and could both cause respondent attitudes toward corruption and correlate with ancestral attitudes. The association between ancestral and respondent attitudes changes little even after simultaneously including all these controls.

Third, I test the sensitivity of the results to the possibility of confounding by unobservable factors. Specifically, I assess how strong the influence of unobservable factors would have to be, relative to that of observable factors, to fully account for the estimated association between ancestral and respondent attitudes (Altonji et al. 2005). I find that the influence of unobservable factors would have to be between 5 and 23 times greater in magnitude than that of observable ones, suggesting that it is unlikely that the results are spuriously due to confounding by unobservables. I also show the findings are not driven by any one country of survey, and that they are robust to modeling the statistical relationship in different ways, to various manners of coding the dependent variable, and to proxying for ancestral corruption norms in a variety of ways.

Fourth, I validate the interpretation of my findings on the basis of recent scholarship on the developmental path of norms of morality for individuals. Such scholarship has found that that, among Western subjects, moral instincts such as other-regarding preferences develop slowly with age, reaching maturity no earlier than the mid-twenties (e.g., Sutter and Kocher 2007). Consistent with this, I find no effect of ancestral norms for respondents younger than 25

years of age. This lends additional support to the notion that what is being identified is indeed the tranmission of norms.

Intergenerational transmission could take place through a variety of mechanisms. The data furnish evidence that family-based mechanisms matter. I find that the mother's ancestral bribery norms are a stronger predictor of respondent norms than the father's, consistent with a simple model where mothers either care more about norms of honesty (e.g., Dreber and Johannesson 2008) and/or spend more time with, and therefore have more influence on, their children than fathers. I also find that bribery norms persist more strongly for those second-generation immigrants whose main language at home is the language of their parents' ancestry.

The data also provide qualified evidence that bribery norms persist more in countries with greater average tolerance for bribery (although the conditional coefficient is estimated imprecisely), consistent with the notion that social context influences individual corrupt behavior. This finding suggests the hypothesis, ripe for further research, that normatively-laxer environments (i.e., those where bribery is more tolerated on average) might be better able to accommodate a broader range of normative commitments with respect to bribery than stricter environments.

One would like to know whether what is being captured is the specific transmission of bribery attitudes or, instead, the persistence of a broader package or bundle of cultural traits. Is high tolerance for corruption, for example, necessarily correlated with lack of respect for the law and with low trust of strangers? Knowing this is important for the purpose of delimiting the uni-

verse of plausible theories of cultural transmission and potentially for policy. I find that ancestral bribery norms have essentially no clear predictive power for respondent attitudes towards the law or trust in others, in the police, or in the law. I also find no clear correlation in the opposite direction: ancestral norms about respect for the law or about trust in others have no predictive power for respondent normative attitudes towards bribery. These results suggest that the persistence of attitudes towards bribery is unlikely to simply be a manifestation of a deeper cultural parameter or an omitted factor such as informal institutions, both of which would generate statistcal association between different kinds of normative attitudes.

Finally, the finding that bribery attitudes persist through generational change begs the question as to whether such attitudes influence behavior. Using a measure of bribery experiences as the outcome variable, I find that bribery attitudes are in fact associated with bribing experiences, even after accounting for a wide range of potential sources of counfounding. This result also appears unlikely to be due to confounding by unobservable factors.

The present study moves beyond existing work in a number of important ways. First, it provides the first rigorous evidence that corruption attitudes have a life of their own, enough so to persist through generational change. Persistence over generations is both more difficult to document and potentially of greater consequence for social science and policy.

Second, the analysis here is able to substantiate – rather than assume – that it is culture (specifically, normative attitudes about bribery) that persists. Studies of cultural persistence for individuals who temporarily relocate abroad

(e.g., Fisman and Miguel 2007; Barr and Serra 2010; DeBacker et al 2012), in contrast, provide no direct, individual-level measure of culture, leaving open the possibility that their findings are due to alternative mechanisms.[4]

Third, as mentioned previously, this study uncovers new evidence bearing on the mechanisms at work, in particular showing that family, and mothers in particular, play a key role in the intergenerational transmission of bribery norms. The data are also suggestive of a role for social mores in moderating the intergenerational persistence of bribery norms. Fourth, despite theoretical arguments that might suggest a natural correlation between different kinds of cultural traits, the findings presented here suggest that bribery attitudes are transmitted independently of seemingly closely-related norms, including trust and attitudes towards the law.

In addition to the substantive contributions, there are methodological advantages to the research design utilized here in comparison with prior work. First, this study is more broadly representative of average people than prior related research. Where prior work has studied UN diplomats or students, this study is based on survey data culled from probability samples from multiple countries. Also in contrast with prior research, I am able to document the individual-level relationship between bribery attitudes and bribing behavior, since I have individual-level measures for both variables instead of measures at

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[4]Fernandez (2011, 502), for example, suggests that Fisman and Miguel's finding that diplomats from more-corrupt countries rack up more parking violations while in New York could be due not to norms but rather to a lower likelihood of punishment in the home country.

the country (e.g., Treisman 2000) or the town level (e.g., Olken 2009). Finally, by constructing my explanatory variable on the basis of survey data, I provide an alternative to the widely-used corruption perceptions indices, which have important limitations (Treisman 2007).

My findings add to a rapidly growing body of empirical work studying the intergenerational persistence of culture in a variety of realms, including fertility and labor force participation (Fernandez and Fogli 2009), geographical mobility (Alesina and Giuliano 2010), trust (Nunn and Wantchekon 2011), preferences for redistribution (Luttmer and Singhal 2011), violent behavior (Miguel, Saiegh and Satyanath 2011), civicness (Ljunge 2012), and risk and trust (Dohmen et al 2011).

The term "culture" has been defined in a myriad of different ways (e.g., Kroeber and Klukhohn 1952). Recent work in economics understands culture to be a set of values, beliefs, cognitions, or rules of thumb that persist over generations (e.g., Guiso et al 2008; Nunn 2012). In line with this approach, I take normative attitudes towards bribery to be a subcomponent of culture. Neither the conceptual framework utilized here nor this study's findings imply or show that culture denotes essential and permanent traits homogeneously shared by a group.[5] In fact, I empirically observe considerable variation in attitudes not only across groups, but also within them, and the attitudinal persistence I find, while long-lasting, is partial, suggesting that over-time change can and

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[5]On the possibility of cultural coherence within groups see Sewell (1999) among others.

does take place.

2. Persistence of Attitudes: Research Design

To test for intergenerational persistence, I explore whether some of the variation in individual attitudes toward corruption can be accounted for by average attitudes toward corruption in the respondent's country of ancestry. The analysis focuses on variation across individuals who share an institutional environment by virtue of having been born, and of residing, in the same country, but whose parents may have originated abroad.

A key feature of this research design is that it separates out the effect of ancestral attitudes from the potential influences of formal institutions in the country of ancestry and in the destination country. Upon migrating, ancestors could have brought with themselves their ideas and attitudes, but not the formal institutions in their country of origin. This implies that formal institutions in the country of ancestry play a negligible role in the analysis – except possibly via their prior influence on attitudes in the country of ancestry. And the fact that respondents share an institutional environment implies that such an environment is unlikely to account for variation across individuals. This empirical strategy is an instance of the "epidemiological" approach, a general-purpose methodology described by Fernandez (2011).

There are several reasons why the epidemiological approach is inherently biased *against* finding that ancestral attitudes matter. For example, if the ancestors who migrated were atypical within the context of their country of origin, a measure of average attitudes in that country is unlikely to have pre-

dictive power. Additionally, one might expect that contemporaneous and local factors should weight more heavily on respondent attitudes than factors at a geographical and temporal distance. Moreover, certain factors that are included as controls in the analysis, such as the respondent's education and household income, are themselves likely to be influenced by inherited attitudes toward corruption. If this is the case, then the regression estimates of the effect of ancestral attitudes will only reflect the residual influence of these on respondent attitudes via channels not captured by the controls. For these reasons, failure to obtain a statistically significant result would not necessarily indicate that ancestral attitudes are not persistent, while a positive result constitutes strong evidence of intergenerational persistence.

For the main analysis I estimate the following model:

$$a_{ijr} = \beta_0 + \beta_1 A_j + \mathbf{x_i}\beta_2 + \phi_r + \epsilon_{ijr} \tag{1}$$

where a_{ijr} is the corruption-related attitude of respondent i with ancestry j residing in country r; $\mathbf{x_i}$ is a vector of covariates that include individual and parental characteristics; the explanatory variable of interest is A_j, a proxy measure of past average attitudes about corruption in the country of ancestry j; ϕ_r represents a set of country-of-survey fixed effects, which capture any country-level factors that might both drive respondent attitudes and correlate with average ancestral attitudes; and ϵ_{ijr} is an error term. The identifying assumption is that, conditional on the regressors, there are no omitted causes of respondent attitudes that correlate with average attitudes toward corruption in the country of ancestry.

The main threat to inference associated with the epidemiological approach is the possibility of bias due to omitted confounders. Suppose, for example, that when migrating, ancestors brought with themselves not attitudes but human capital, which was then transmitted to the next generation. Insofar as human capital influences attitudes toward corruption, it could spuriously produce the impression that attitudes themselves were transmitted to the next generation even if they were not. Confounding could also ensue from other socioeconomic factors such as income, discrimination in the destination country on the basis of race/religion/language, selection of migrant groups into particular employment situations, or local factors such as local levels of corruption or local institutions. Therefore, it is important to explicitly control for these variables. One might also consider the possibility that ancestral informal institutions might be reproduced in the destination country and, in turn, influence the formation of descendant's attitudes toward corruption. In this case, informal institutions would constitute a step in the causal chain of ideational and attitudinal transmission: reproducing informal institutions in the destination country requires that migrants have brought with themselves ideas and attitudes (Nunn 2012).

3. Empirical Analysis

3.1. Data

I utilize data from the second wave of the ESS (2004), consisting of identical surveys translated and fielded on country-level probability samples in Europe. All data were collected through hour-long face to face interviews, with mini-

mum target response rates of 70%. The outcome variable is an item within a set that begins with the question: "How wrong, if at all, do you consider the following ways of behaving to be?" The sub-item of interest reads: "a public official asking someone for a favour or bribe in return for their services?" Possible answers are: "Not wrong at all," "a bit wrong," "wrong," and "seriously wrong." While only 1% of respondents deem bribery to be "not wrong at all" and an additional 2% to be "a bit wrong," a full 23% of respondents consider it to be "wrong," while the remaining 74% consider it "seriously wrong." Hence, in the aggregate, most of the variance in responses stems from variation between the latter two categories. For this reason, I recode the outcome variable as a dichotomous indicator taking the value of 1 whenever a respondent chooses "seriously wrong" and 0 otherwise. The results are the same without recoding, but interpretation is simpler this way. Importantly, the proportion who believe bribery to be seriously wrong varies substantially with country of ancestry. For example, while at least 80% of respondents with Danish or Norwegian ancestry found bribery to be "seriously wrong," less than 65% of those with Spanish or Hungarian ancestry ancestry did.[6]

The universe of individuals of interest consists of all respondents born in the country where they were surveyed, whose father and/or mother were born in a different country – that is, all second-generation immigrants in the data

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[6]The ancestry-level figures are based on maternal ancestry for the sake of clarity. All figures in this paragraph are based on the subsample for the base model, to be described presently.

(the data contain no information about the ancestry line other than parental country of birth).[7] I create an analysis subsample from within this universe as follows. First, I restrict analyses to individuals age 25 and over. This makes it possible to control for years of education, as those under 25 cannot reasonably be presumed to have completed their schooling. Moreover, there is strong evidence that the development of norms and social preferences does not attain its peak until at least 25 years of age in Western subjects (more on this later). Next, given a model specification, I drop cases with missing data for any of the included variables, and then require that at least three ancestries be represented in each country of survey (since estimates exploit mostly the within-country variation), with at least three observations per ancestry. The results are robust to various ways of relaxing these and the age restrictions. I define an "ancestry" as an ordered pair {father's country of origin, mother's country of origin}, reflecting the possibilities that father's and mother's norms could have different persistence across generations, and that different combinations of father's and mother's ancestries could be associated nonlinearly with attitudinal persistence.

To provide a rough sense for the basic pattern in the data Figure 1 plots

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[7]I follow Alesina and Giuliano (2010) and Fernandez (2011) in focusing on second generation immigrants. This avoids issues such as heterogeneity in language differences and it helps to rule out reverse causality.

the two main variables.[8] The vertical axis corresponds to the dependent variable: the attitudes toward bribery of second-generation immigrants (averaged by country of ancestry in the figure). For the sake of readability, in this figure I use the mother's country of ancestry (and not the ancestry descriptor just described). The horizontal axis depicts the explanatory variable – average attitudes toward bribery in the country of ancestry. The scatterplot already suggest a possitive association between individual attitudes and average attitudes in the individual's country of ancestry.

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[8]Based on all observations with data for the main dependent and explanatory variables (N=1346). The pattern in the figure is robust to removing respondents with ancestry from Switzerland, United Kingdom, and Denmark either separately or together.

Figure 1: Association between average ancestral attitudes towards bribery and individual respondent attitudes
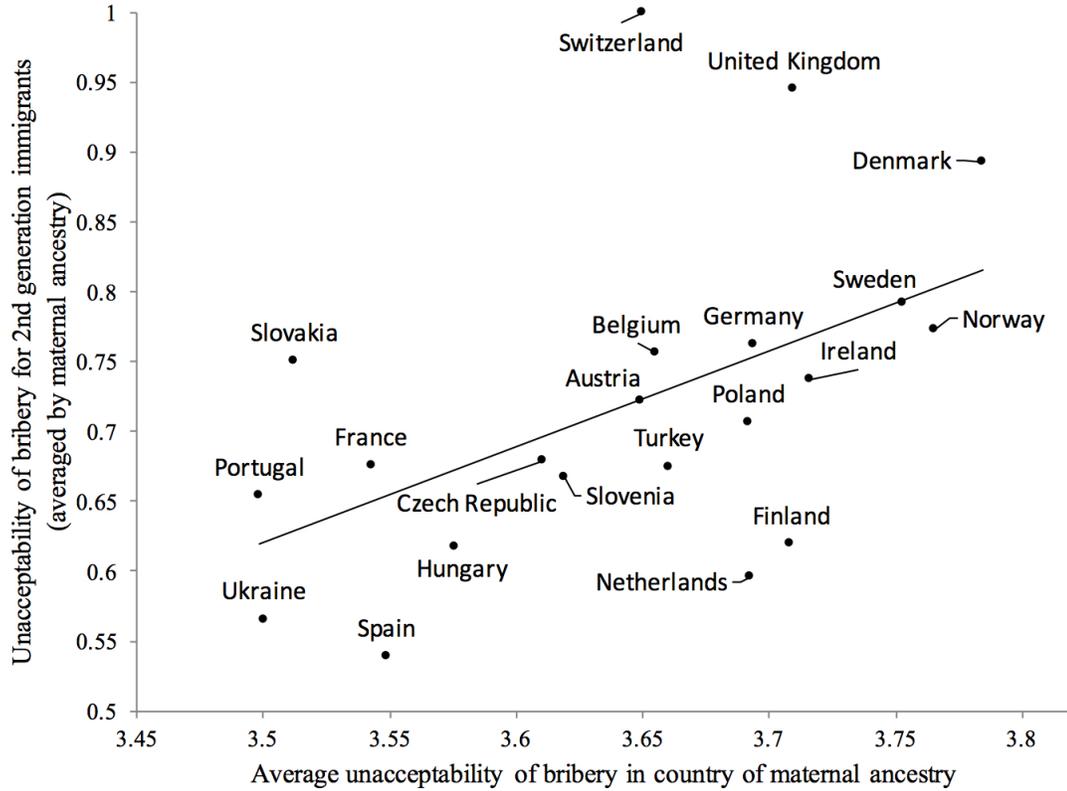
The *base sample* is the analysis subsample for a specification that controls for basic respondent characteristics – age, sex, and education. It consists of 848 respondents residing in 16 countries of survey, with parents born in 20 different foreign countries and in the 16 countries of survey. For 22% of respondents, both parents were born abroad in the same country; for 45% only the mother was born abroad, and for the remaining 33% only the father was born abroad. The number of ancestry ordered pairs represented in each country of survey ranges between 5 and 9, with an average of 5.9. Descriptive statistics for all

variables are provided in the Appendix.

The main explanatory variable is constructed as the country average attitude toward bribery, calculated on the basis of the same survey item, but utilizing those survey respondents in the sample who are neither first nor second-generation immigrants. Specifically, I assign to each respondent a value of the explanatory variable (ancestry average attitudes towards bribery) according to the origin of the respondent's parents. This variable is constructed as follows. For respondents whose parents were both born abroad in the same country, the variable takes that country's average bribery attitudes. If the father and the mother were born in different foreign countries, the variable takes the simple average of their average ancestral bribery attitudes. If only one of the parents was born abroad, I average that parent's ancestral average bribery attitude with the average bribery attitude in the country of the respondent. In a few cases, a parent is known to have been born abroad but data on the country of birth are missing. I exclude all such cases from the analysis. The ancestry bribery attitudes variable ranges between 3.40, corresponding to Slovakian ancestry, and 3.80, corresponding to mixed Danish-Norweigian ancestry (in either order), with higher values corresponding to greater disapproval of bribery. I interpret the explanatory variable thus constructed as a proxy for average attitudes in the parental country of ancestry when the parents lived there.

This interpretation is valid under the assumption that country-average attitudes toward bribery did not change much between the time that the parents lived in their country of origin and the time of the survey. Country-level

data for corruption perceptions suggests that these change slowly (Herzfeld and Weiss 2007). Nevertheless, over-time changes in average bribery attitudes would likely attenuate any estimated relationship between ancestral and individual attitudes, further stacking the cards against finding persistence. As a robustness check I repeat the analysis using an alternative explanatory variable – a past average value of a corruption perceptions index (World Bank) available from the 1990s.

3.2. Estimation

I estimate linear probability models via OLS throughout. While the discrete and ordinal nature of the dependent variable might suggest using nonlinear discrete outcomes models, the inclusion of fixed effects in such models is known to produce biased and inconsistent estimates (Greene 2002). Yet there exist compelling reasons to include fixed effects in the analysis, most importantly in order to control for unobservable factors at the country of survey level. Even if fixed effects were not an issue, there is no way to know whether a particular nonlinear model is the correct one, and a linear model is simpler to interpret. Still, results are robust to using a probit model on the dichotomous version of the dependent variable and to using an ordered probit model on the dependent variable with its original four categories. Unless otherwise noted, all regressions include fixed effects for the country of residence. To be conservative in coefficient hypothesis tests, all standard errors are robust and clustered by the ancestry descriptor.

3.3. Main Results

Table 1 presents the main results. All models include a set of dummy variables for the country of survey (not shown). The first regression (model 1) is run on the largest subsample with data on the outcome and explanatory variables (constructed as described previously). The estimated coefficient on the ancestral attitudes variable is positive and statistically significant (P < .01), indicating that respondents with ancestors from countries with higher average disapproval of bribery are themselves more likely to disapprove of bribery more vehemently, consistent with intergenerational persistence.

To investigate the possibility of confounding by omitted factors, I add a set of socioeconomic variables to the analysis. Models 2-4 are run on the same subsample in order to distinguish the effects of controls the estimate of interest from sample composition effects. This subsample includes data for a basic set of characteristics of the respondent, his/her father, and his/her mother. Model 2 includes no control variables. Model 3 controls for respondent education as a set of dummy variables, as well as for age as a quadratic polynomial and for sex. The education categories are standardized across surveys and the omitted category is "primary." The estimated marginal effect of the ancestral attitudes variable remains statistically significant and its magnitude is 95% of that in model 2, suggesting that respondent traits could at most account for a small proportion of the estimated effect of ancestral attitudes. The education variables are jointly statistically significant, as is the set of country fixed effects (P < .05 in both cases). The role of age will be discussed further below.

Model 4 controls, in addition, for the father's education and for his occu-

Table 1: Main Analysis – Attitudes towards Bribery

	(1)	(2)	(3)	(4)	(5)	(6)
Ancestry bribery attitude	0.476*** (0.132)	0.649*** (0.185)	0.616*** (0.186)	1.004*** (0.200)	0.596** (0.269)	0.565* (0.268)
Age			-0.002 (0.004)	0.002 (0.007)	-0.001 (0.005)	-0.003 (0.006)
Age squared			0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Female			-0.026 (0.028)	-0.008 (0.045)	-0.010 (0.033)	-0.007 (0.033)
Lower secondary			0.024 (0.099)	0.035 (0.117)	0.025 (0.121)	0.014 (0.129)
Upper secondary			0.081 (0.068)	0.081 (0.067)	0.096 (0.084)	0.077 (0.098)
Post secondary			0.095 (0.090)	0.139* (0.074)	0.077 (0.103)	0.049 (0.121)
Tertiary			0.175** (0.078)	0.175* (0.085)	0.177 (0.102)	0.141 (0.128)
Father's traits:						
Lower secondary				-0.052 (0.069)	-0.050 (0.058)	-0.046 (0.058)
Upper secondary				-0.000 (0.072)	-0.005 (0.051)	-0.001 (0.049)
Post secondary				0.254*** (0.084)	0.139 (0.093)	0.130 (0.096)
Tertiary				0.101 (0.068)	0.030 (0.056)	0.032 (0.055)
Self employed when R 14				0.021 (0.055)	0.043 (0.032)	0.045 (0.033)
Not working when R 14				-0.074 (0.181)	-0.093 (0.143)	-0.106 (0.142)
Died or absent when R 14				0.045 (0.120)	0.024 (0.123)	0.030 (0.119)
Mother's traits:						
Lower secondary				0.044 (0.058)	0.072 (0.055)	0.067 (0.053)
Upper secondary				0.029 (0.055)	0.092 (0.060)	0.083 (0.057)
Post secondary				0.010 (0.098)	0.087 (0.099)	0.080 (0.097)
Tertiary				0.001 (0.079)	0.087 (0.069)	0.085 (0.068)
Self employed when R 14				-0.008 (0.048)	-0.013 (0.084)	-0.002 (0.070)
Not working when R 14				-0.026 (0.042)	-0.028 (0.048)	-0.026 (0.045)
Died or absent when R 14				0.157 (0.098)	0.023 (0.146)	0.007 (0.149)
Household income (log)						0.050 (0.040)
Constant	-1.009** (0.470)	-1.613*** (0.680)	-1.528* (0.746)	-0.193 (0.811)	-1.630* (0.935)	-1.984* (1.058)
Adjusted R-squared	0.025	0.025	0.033	0.028	0.040	0.045
	1346	848	848	848	628	628
	0.028					

Notes: Robust standard errors clustered by ancestry shown to the right of coefficient estimates. All models include country of survey fixed effects.
*P < .1, **P < .05, ***P < .01

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pational status when the respondent was 14 years of age (employee vs. self-employed) – an additional measure of socioeconomic background – as well as for the corresponding variables for the mother. I subsequently refer to model 4 as the *base specification*. The omitted parental education category is "primary," and the omitted category for parental occupational status is "employee." In model 4, the marginal effect of the ancestral attitudes variable is appreciable *larger* than that in model 3 by about 60%, suggesting that omitting the parental controls biases the estimated importance of ancestral attitudes downwards. In fact, the increase in the coefficient on ancestral attitudes is the consequence of adding the mother's variables (a similar regression including only the father's variables yields a slightly lower estimate for the coefficient of ancestral attitudes than model 2). The seemingly different influences of paternal and maternal traits on attitudinal transmission hints at potentially different roles for fathers and mothers in this process – a theme to which I return later. The main conclusion from models 2-4 is that the relationship between ancestral and respondent attitudes is robust to the inclusion of the controls just discussed. Concerning the rest of the coefficients in model 4, the father's and mother's education variables together are jointly statistically significant (P < .05), and more-educated respondents more strongly disapprove of bribery than less-educated ones.

The main finding is also robust to controlling for the log of respondent household income (model 6). Since the inclusion of this variable substantially reduces the sample size, the coefficient on ancestral attitudes is properly compared to model 5, which is specified like model 4 but run on the subsample

with data for the income variable. The coefficient on ancestral bribery attitudes once the income control is included (model 6) is 95% as large as that without including income (model 5), and it is relatively close to the estimates in models 1-3. Higher household income is associated with greater disapproval of bribery (not significant).

Substantively, the estimates in Table 1 imply that an individual with Danish and Norwegian ancestry, in comparison with one with Slovakian ancestry, but identical in every other respect, will disapprove of bribery more by between 0.23 and 0.40 points on the scale of the outcome variable (corresponding respectively to models 6 and 4). This difference is equivalent to between 52% and 92% of the standard deviation in bribery attitudes across individuals.

To probe the robustness of the results to potentially-outlying ancestries, I run the base model (model 4) removing all observations that share a specific ancestry descriptor at a time, for every ancestry descriptor. The results hold up nicely, with the point estimates on the ancestral attitude variables ranging between 0.53 and 0.76, with all point estimates statistically significant at the .01 level except when removing Poland ($P < .05$). As a more-stringent test, I remove all observations sharing a maternal country of ancestry at a time, for each country of ancestry. The point estimates range between 0.49 (when removing Germany; $P < .1$) and 0.77 (when removing Slovakia; $P < .01$), with all point estimates retaining statistical significance at the 10% level and most at the 1% level. Repeating this exercise with model 12, which includes

controls for discrimination, employment, and income, yields similar results.[9]

The findings also hold up to the use of a country-level corruption percep-
tions index as an explanatory variable. I use the Control of Corruption index
from the World Bank's Worldwide Governance Indicators (WGI; Kaufmann et
al 2010). The index aggregates various surveys, largely from country experts,
into standardized country-level scores. Higher values correspond to lower lev-
els of corruption perceptions. While perceptions are not a direct measure of
bribery attitudes, this variable has the advantage that it temporally precedes
the collection of the outcome variable.[10] I use the earliest available observation
of the index, which is for 1996. The results hold up. In the base model speci-
fication, the WGI variable is a statistically significant predictor of respondent
bribery attitudes. The marginal effect of a change in the WGI corruption in-
dex corresponding to the difference in this variable between Ukraine and the
Denmark is equivalent to 28% of the standard deviation in bribery attitudes
across individuals in the regression sample.[11]

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[9]Point estimates range between .49 when removing Germany (P < .1) and .82
when removing Netherlands (P < .05). Despite the smaller sample size, results
retain statistical significance at the .1 level in all cases except when removing
respondents with Polish maternal ancestry (the point estimate is .58, but it
does not reach statistical significance).

[10]Corruption perceptions indices have been utilized in previous scholarship to
proxy for "cultural norms" towards corruption. For critical assessments of
such indices see Knack 2007; Treisman 2007; Olken 2009.

[11]The marginal effect is of a similar size in a model specified like model 12,

3.4. Alternative explanations

Alternative explanations for the estimated correlation between ancestral and respondent bribery attitudes may be organized in the following categories. First, the migrant parents could have brought with themselves not attitudes but *something else*, which in turn shaped their children's attitudes. The anaysis in the previous section sought to rule out the possibility that the ancestors' human capital or income explain the attitudes of the second generation immigrants. Second, the *experiences* of migrants and their children in the destination country (such as discrimination or employment opportunities) could have shaped the children's attitudes towards bribery. Third, the *selection process* of migrants into destination countries could be responsible for the estimated correlation. The latter two categories of explanations are relatively difficult to sustain: it would have to be the case that migrants from ancestries with greater attitudinal tolerance for bribery were either systematically exposed to experiences in the destination country that rendered them or their children more tolerant towards bribery, or systematically migrated towards destinations with greater general tolerance towards bribery. Still, it is worth probing the plausibility of different versions of such alternative explanations on the basis of the evidence.

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but the coefficient is somewhat less precisely estimated. However, the loss in precision is due to the smaller sample size and not to the controls, as revealed by a comparison with a model run on the same subsample but omitting the employment, discrimination, and income controls.

3.4.1. Discrimination

Individuals for whom discrimination restricts economic or social opportunities may be more likely to view corruption as one of few avenues available for advancement, and therefore as more acceptable, in comparison with individuals who do not face such restrictions. If, in addition, corruption attitudes in the country of ancestry were associated with factors leading to discrimination in the destination country (e.g. as a result of patterns of colonialism), such as race, ethnicity, language, or religion, then failing to account for discrimination on these grounds could potentially bias the estimates. To study this possibility, I repeat the analysis adding a set of indicator variables for different types of discrimination. I use the survey question: "On what grounds is your group discriminated against?" Respondents are allowed to mark (or fail to mark) each of a series of grounds for discrimination, including nationality, race or color, religion, language, and ethnicity. Model 8 in Table 2 includes indicator variables for each of the categories of discrimination just enumerated. Due to missing data on discrimination, the sample is smaller than the base sample. Therefore, for comparison purposes, I run a model – model 7 – on the subsample for which the discrimination variables are available, but omitting the discrimination variables (specified like model 4). The effect of ancestral attitudes remains statistically significant and its magnitude barely changes when controlling for discrimination – in fact, it increases slightly. Discrimination, therefore, does not appear to be responsible for the association

between ancestral and respondent attitudes.[12]

3.4.2. Selection into economic activity

I next probe the possibility that ancestry might be associated with selection into particular kinds of economic activity which, in turn, could shape respondent attitudes toward corruption. Turkish immigrants to Germany, for example, have been found to be overrepresented in unskilled jobs and long-term unemployment (Kogan 2003, 66). An association betwen ancestry and employment patterns, however, could only function as a confounder if it were also the case that individuals with ancestries that were generally more accepting of bribery selected themselves into occupations or employment situations that promoted more permissive attitudes towards bribery. Other than via mechanisms related to human capital or income – for instance, migrants from countries with bad governance and low human capital selecting into professions with limited opportunities for advancement – it is not obvious why this might be the case.

The analysis already controls for the education and human capital of the respondent and his/her parents, reducing the likelihood that selection into economic activity is responsible for the observed correlation between ancestral

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[12]In model 8, the set of discrimination variables is jointly statistically significant (P < .01); individually, the indicators for discrimination by nationality, race and ethnicity all reach statistical significance, but respondents who report discrimination by nationality or race tend to disapprove more vehemently of bribery – a correlation of opposite sign to that hypothesized.

Table 2: Robustness Analyses – Attitudes towards Bribery

	(7)	(8)	(9)	(10)	(11)	(12)
Ancestry bribery attitude	0.596** (0.269)	0.605** (0.272)	0.522* (0.257)	0.655** (0.282)	0.522* (0.257)	0.631** (0.294)
Age	-0.001 (0.005)	-0.000 (0.005)	-0.000 (0.005)	0.001 (0.005)	-0.000 (0.005)	0.001 (0.006)
Age squared	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Female	-0.010 (0.033)	-0.013 (0.034)	-0.006 (0.033)	-0.022 (0.038)	-0.006 (0.033)	-0.022 (0.038)
Lower secondary	0.025 (0.121)	0.036 (0.127)	0.025 (0.122)	0.030 (0.129)	0.025 (0.122)	0.025 (0.147)
Upper secondary	0.096 (0.084)	0.103 (0.090)	0.101 (0.086)	0.096 (0.093)	0.101 (0.086)	0.079 (0.114)
Post secondary	0.077 (0.103)	0.086 (0.107)	0.077 (0.103)	0.072 (0.104)	0.077 (0.103)	0.047 (0.128)
Tertiary	0.177 (0.102)	0.187 (0.109)	0.180 (0.105)	0.182 (0.115)	0.180 (0.105)	0.148 (0.151)
Parents' education	Y	Y	Y	Y	Y	Y
Parents' emplmt. R. 14	Y	Y	Y	Y	Y	Y
Discrimination:						
By nationality		0.449** (0.160)				0.362 (0.233)
By race/color		0.390*** (0.099)				0.399*** (0.112)
By religion		0.078 (0.252)				0.080 (0.286)
By language		0.000 (.)				0.000 (.)
By ethnicity		-0.451*** (0.136)				-0.497*** (0.150)
Source of income:						
Wages or salaries				-0.318** (0.132)		-0.317** (0.132)
Self employment				-0.456*** (0.103)		-0.443*** (0.108)
Pensions				-0.260*** (0.079)		-0.245*** (0.078)
Unemployment				-0.426** (0.180)		-0.424** (0.167)
Other social benefits				-0.345* (0.183)		-0.314* (0.175)
Investments/savings				-0.670 (0.393)		-0.695* (0.354)
Main occupation:						
Paid work				0.205 (0.310)		0.211 (0.316)
Education				0.178 (0.352)		0.205 (0.345)
Unempl. want job				0.372 (0.335)		0.371 (0.352)
Unempl. not looking				0.316 (0.407)		0.424 (0.375)
Permanently sick				0.076 (0.350)		0.090 (0.344)
Retired				0.229 (0.350)		0.236 (0.351)
Community svc.				0.000 (.)		0.000 (.)
Housework/child care				0.236 (0.341)		0.235 (0.346)
Other variables:						
Ever unempl. 12 mths				0.004 (0.082)		0.011 (0.083)
Household income (log)						0.110** (0.049)
Constant	-1.630* (0.935)	-1.698* (0.944)	-1.399 (0.898)	-1.785* (0.869)	-1.399 (0.898)	-2.299** (1.061)
Adjusted R-squared	0.040	0.045	0.039	0.037	0.039	0.049
Observations	628	628	624	624	624	624

Notes: Robust standard errors clustered by ancestry shown to the right of the point estimates. All models include country of residence fixed effects.
*P < .1,**P < .05,***P < .01

and respondent attitudes. Nevertheless, to further test for this possibility I add a rich set of controls describing the respondent's employment situation (model 10). The first set of indicator variables describes the respondent's main source of household income (wages or salaries, income from self employment excluding farming, pensions, unemployment or redundancy benefits, any other social benefits or grants, income from investments/savings/insurance/property, or income from other sources; the omitted category is income from other sources). The second set of variables describes the respondent's main economic activity (in paid work or away temporarily, in education, unemployed and looking for a job, unemployed and not looking for a job, permanently sick or disabled, retired, in community or military service, doing housework/looking after children or other persons, and other; the omitted category is other). I also control for the respondent's long term unemployment history through an item that asks whether the respondent has ever been unemployed and seeking work for 12 months or more. For purposes of comparison, model 9 is run on the same subsample as model 10 but it omits the employment situation variables. The effect of ancestral attitudes survives the inclusion of these controls, remaining statistically significant and in fact substantially greater in magnitude in comparison with model 9. This suggests that selection of ancestries into particular economic activities, if anything, stacks the cards against the finding that bribery attitudes persist. The employment variables are jointly significant (P < .01).

Model 12 simultaneously includes all the control variables utilized thus far, including all the discrimination, employment situation, and respondent house-

hold income variables as well as the basic respondent and parental controls and country of survey fixed effects. Model 11 is specified like the base model but it is estimated on the subsample for which all the variables in model 12 are available are available.[13] The marginal effect of ancestral bribery attitudes is larger in magnitude in the fully-controlled model (model 12) in comparison with model 11, suggesting that the full set of control variables is not responsible for the estimated effect. The point estimate is also statistically significant (P < .05) despite the fact that sample size is less than two thirds that of the base model subsample.

3.4.3. Country-level factors

Insofar as immigrants cluster geographically by ancestry, local context could potentially influence their descendants' attitudes toward corruption. In order for the context in the country of destination to confound the association between ancestral and respondent attitudes, however, it would have to also be the case that migrants from countries with more-permissive attitudes toward bribery cluster in recipient countries with more-permissive attitudes towards bribery. It is not clear why this might be the case. For one thing, migrants tend to move to economically prosperous countries, which on average have less-permissive attitudes towards bribery. Still, to address this possibility, all empirical estimates presented thus far have included fixed effects for the country of residence. The fixed effects control for any country-level factors, in-

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[13]It turns out that this subtample is the same as that utilized for the employment regressions, i.e. models 9 and 10. Hence, models 9 and 11 are identical.

cluding corruption attitudes, or formal or informal institutions at the country level, that could potentially correlate both with ancestry and with respondent attitudes toward bribery.

3.4.4. Informal institutions

Could informal institutions function as an unobserved confounder? If the replication of informal institutions is itself influenced by ancestors' attitudes toward corruption, informal institutions would constitute a step in the causal chain of intergenerational transmission of attitudes, rather than a confounder. Ancestors' attitudes about corruption, for example, could have influenced informal institutions such as community-based mechanisms of dispute resolution, adjudication of grievances, or enforcement in the communities they established upon migrating.[14]

If the replication of informal institutions in the destination country is not endogenous to attitudes toward corruption, however, it could potentially confound the relationship between ancestral and respondent attitudes (e.g., if informal institutions influenced attitudes toward corruption both in the country of ancestry and among second-generation immigrants, and informal institutions were that which persists down the generations). In this case, informal institutions would function as an omitted variable. One way to assess the plau-

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[14]Helmke and Levitsky (2004) suggest that the emergence of informal institutions involves, among other factors, coordination, focal point effects, and shared beliefs. Their analysis, therefore, opens the door for preexisting attitudes to play an important role in shaping informal institutions.

sibility of such a scenario is to consider the specific mechanisms that might be at work. Informal institutions could, for example, shape social incentives for choices about education and work both in the country of ancestry and in the destination country. In turn, work and education choices could influence attitudes towards bribery. Were this the case, controlling for education and economic activity could appreciably attenuate the correlation between ancestral and respondent bribery attitudes. As the previous analyses demonstrate, no such attenuation is discernible (if anything, the opposite is true: controlling for such variables strengthens the correlation between ancestral and respondent bribery attitudes).

A further way to assess the plausibility that informal institutions might function as an omitted confounder is to note that, if informal institutions indeed shaped attitudes towards bribery, they would be likely to also shape other kinds of attitues such as trust in others (which, it has been suggested, could itself be associated with bribery; e.g., Putnam 1993; Uslaner 2005) or general attitudes towards the law. If this were the case, informal institutions could induce correlation between ancestral bribery attitudes and respondent trust and attitudes towards the law. Informal institutions could likewise induce correlation between ancestral trust and attitudes towards the law, on the one hand, and respondent attitudes toward bribey, on the other. The evidence does not provide much support for the existence of such correlations (details provided further below), reducing the likelihood that intergenerational persistence of bribery attitudes is driven by unobserved informal institutions.

3.4.5. Sensitivity to unobserved factors

While the analysis already accounts for a rich set of factors that could potentially confound the association between individual and bribery attitudes, the possibility remains that factors not controlled for in the analysis could bias the findings. To probe this possibility, I conduct a sensitivity analysis that asks: how large would the importance of an unobserved confounder have to be, relative to the importance of the included controls, in order to fully explain away the estimated effect of ancestral attitudes? The answer to this question is given by the ratio $\beta_{1,\text{full}}/\left(\beta_{1,\text{full}} - \beta_{1,\text{restricted}}\right)$, where $\beta_{1,\text{full}}$ is the estimated effect of ancestral attitudes on respondent attitudes in a model with a "full" set of controls, and $\beta_{1,\text{restricted}}$ is the equivalent estimand in a model with few or no controls (Altonji et al 2005; Bellows and Miguel 2009). The idea is that $\beta_{1,\text{full}}$ is the size of the effect to be explained away and $\beta_{1,\text{full}} - \beta_{1,\text{restricted}}$ is the bias that would ensue from omitting the controls. Using different choices for the full and restricted models, I obtain ratios that range between 5 and 23 in absolute value (see Appendix for further details). A ratio of 5, for example, implies that the bias due to unobservables would have to be at least 5 times greater in magnitude than the bias that would ensue from omitting all the included control variables together.[15] On the basis of these ratios, I conclude it is unlikely that unobserved factors could fully

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[15] As a point of comparison, similar ratios in Nunn and Wantchekon's (2011) study of the effect of slavery on trust range between 3 and 11.5, and those in Bellows and Miguel (2009) range between 5 and 17.

account for the estimated effect of ancestral bribery attitudes on respondent attitudes identified in the analysis.

3.5. Mechanisms

In a seminal paper, Bisin and Verdier (2000) lay out a model of intergenerational cultural transmission incorporating the ideas that parents are able to transmit their values to their children (*vertical transmission*), that the local social environment can influence the individual (*oblique transmission*), and that parental effort at transmitting cultural traits, as well as marriage choices, are endogenous (on this see also uhel et al 2013). In what follows I draw upon this framework to investigate some of the mechanisms that could potentially underlie the finding of intergenerational persistence of bribery attitudes.[16]

3.5.1. Vertical transmission

Prior research has found that attitudinal transmission can be influenced by the ancestor's sex (e.g., Fernandez and Fogli 2009). Generally, mothers have been found to be more important than fathers, for example in the intergenerational transmission of trust attitudes (Dohmen et al 2011). In addition, the literature finds that women tend to be less corrupt than men (e.g., Dollar, Fisman and Gatti 2001), and to care more than men about norms of honesty (e.g., Dreber and Johannesson 2008; but see Abeler et al 2014). Taken

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[16]Genetic mechanisms of transmission could exist as well, but much of the existing evidence – such as differential effects of fathers vs. mothers, or the effect of peers – is not easy to reconcile with exclusively-genetic transmission of cultural traits.

together, these findings raise the possibility that the vertical transmission of bribery norms could differ for fathers vs. mothers.

To investigate this hypothesis, I let the father's and the mother's ancestral average bribery attitudes enter the analysis separately and simultaneously. The mother's ancestral attitudes are a much stronger predictor than the father's both in magnitude and in statistical significance. In the base specification (analogous to model 4), the marginal effect of the mother's ancestral norm is about 0.48 (P < .01) while that of the father's is 0.12 (P = .31). In a fully-controlled model (analogous to model 12), the marginal effect of the mother's norm is 0.50 (P < .05) while the father's is 0.13 (P = .38). The substantive magnitude of the marginal effect of mothers' ancestral norms is just slightly smaller than that of the composite ancestral norms variable in most of the specifications in tables 1 and 2. The result that mothers' ancestral bribery attitudes matter more than fathers' is consistent with a simple model where mothers care more about norms of honesty than fathers and/or spend more time with, and therefore have more influence on, their children.[17]

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[17]There is empirical support for the notion that mothers and fathers care differently about different normative realms. For example, Dohmen et al (2011) find that both parents matter equally in the realm of risk preferences. But such variation is inconsistent with the hypothesis that mothers have greater influence than fathers across the board on a child's normative/attitudinal development.

3.5.2. Oblique transmission

Any "direct" influences of the local environment (i.e., the country of survey for present purposes) on respondent attitudes is sucked out of the analysis by the inclusion of country of survey fixed effects. Comparing model 2 (table 1) with a similar model run on the same subsample but without the fixed effects, suggests that the local environment does matter: the model with fixed effects more than doubles the size of the adjusted R-squared, the fixed effects are jointly statistically significant ($P < .01$), and the coefficient on ancestral bribery norms increases by 10% in magnitude when the fixed effects are included.

In addition to influencing attitudes directly, the local environment could moderate the strength of intergenerational attitudinal transmission. Specifically, bribery attitudes in the respondent's country of residence are, prima facie, a potentially important moderator of intergenerational transmission. A context permissive towards bribery, for example, could make it easier for ancestral bribery attitudes – whatever these are – to persist. On the other hand, a permissive context might create pressure for immigrants and their children to assimilate to local attitudes in comparison with a stricter context if, for example, getting things done in daily life is difficult without adapting to the local norm.

I interact average ancestral attitudes towards bribery with average attitudes towards bribery in the respondent's country. The local average attitudes variable is constructed using the ESS survey data for respondents who are neither immigrants nor second-generation immigrants. Because country

of survey fixed effects are used, the main effect of local bribery attitudes is omitted (it is subsumed in the fixed effects). In the base model specification, ancestral attitudes more strongly predict respondent attitudes in countries with higher average acceptance of bribery (corresponding to lower values of the attitudes variable). The point estimates change substantially across the range of variation in local bribery attitudes, from 0.79 to 0.52, consistent with the hypothesis that ancestral cultural factors matter most for corruption in places where corruption carries relatively less social stigma.[18] Nevertheless, 95% confidence intervals are too wide to rule out the hypothesis of no change. Still, taking the point estimates at face value suggests potential scope conditions for the proposition that culture matters for corruption: it may matter more where social mores about corruption are more permissive.

3.5.3. Cultural complementarities

Do some cultural traits tend to "go together" with other cultural traits? The issue of bundling is far from settled. Theoretical work has suggested a variety of reasons why cultural traits could exist, and be transmitted intergenerationally, in bundles. If culture and institutions coevolve (Bisin and Verdier 2015), particular bundles of norms could exist and persist together with specific institutions. Cultural norms could also come in bundles as a result of spillover effects (Burke and Young 2011). In addition, what we view as multiple cultural traits (Montgomery 2009) could in fact be expressions of a deeper

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[18]In the fully controlled specification (that of model 12 in table 2), the point estimates vary from 0.80 to 0.54.

cultural dimension or parameter. Despite the reasonableness of these conjectures, however, bundling is not always borne out in the data. Dohmen et al's (2011) analysis of German data, for example, shows that parental risk attitudes do not predict children's trust attitudes nor do parental trust attitudes predict risk attitudes in their children.

To further sharpen the interpretation of the main findings and potentiatlly for policy purposes one would like to know whether what is being captured is the specific transmission of bribery attitudes or, instead, the persistence of a broader bundle of cultural traits. As mentioned previously, attitudes towards corruption could, for example, constitute merely an observable dimension of general attitudes towards honesty or towards the law. They could also be correlated with generalized trust or trust in institutions (La Porta et al 1997; Morris and Klesner 2010),

I investigate the specificity of attitudinal transmission by checking whether bribery norms persist on their own or as part of a broader bundle of potentially correlated normative attitudes. For each item, I run the base specification as well as the fully controlled one (analogous to model 12). Ancestral bribery attitudes do not predict respondent trust in the legal system, generalized trust, expectations that others will act fairly, or the belief that "if you want to make money you can't always act honestly."[19] Ancestral bribery attitudes are

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[19]Ancestral bribery attitudes are associated with respondent trust in the police. Lower trust goes together with greater acceptability of bribery in the base specification (P < .1), but the result disappears in the fully-controlled specification.

associated with two attitudinal measures about respect for the law, but in both cases the direction of the association is nonsensical: stronger agreement with the statement that "occasionally it is alright to ignore the law and do what you want" is associated with *lower* tolerance for bribery; and stronger agreement with the statement that "you should always obey the law even it means missing good opportunities" is associated with *greater* tolerance for bribery.

In addition, ancestral average attitudes towards the law (agreement with the statement that "occasionally it is alright to ignore the law and do what you want") have no predictive power for respondent normative attitudes towards bribery, and ancestral generalized trust has some predictive power but the result runs in the nonsensical direction (and it only reaches statistical significance in one specification).[20] Taken together, these results suggest that the transmission of bribery attitudes is realm-specific, and not part of a deeper multidimensional factor or parameter.

Cultural complementarities could also arise if one cultural trait influences the ease or difficulty of intergenerational transmission of another trait. In particular, the language spoken at home could facilitate the transmission of other kinds of attitudes. Adages – to take one possible channel through which language might aid cultural transmission – are often language specific and

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[20]Greater ancestral generalized trust predicts greater respondent acceptance of bribery, going against a body of established findings (e.g., La Porta et al 1997; Uslaner 2005).

sometimes reflect cultural traits. Contrast, for example, the English-language saying that "cheaters never win, and winners never cheat" with the Spanish-language one that "*el que no transa, no avanza*" (he who does not cheat does not get ahead) or the Italian "soldi e amicizia vincono la giustizia" (money and friends overcome justice).[21] More to the point, language spoken at home can influence the frequency and the intensity of interaction with people from the same culture, thereby facilitating the transmission of cultural traits.

I test for a moderating effect of language spoken at home on the strength of intergenerational persistence of bribery attitudes, by interacting ancestral bribery attitudes with an indicator for whether the mother's ancestral language is the first language spoken in the respondent's home. In both the base model specification and the fully controlled one, intergenerational persistence of bribery attitudes is stronger when the ancestral language is the main one spoken at home. In the base specification, the coefficient on ancestral bribery norms is 0.42 ($P < .05$) when the ancestral language is not the main one spoken at home and it is 1.2 ($P < .01$) when it is, and the difference between these coefficients is statistically significant ($P < .05$). In the smaller sample corresponding to the fully controlled specification, the corresponding coefficients are 0.27 and 1.2, and only the latter is statistically significant ($P < .05$), while the difference between the coefficients is borderline statistically significant ($P = .101$). This finding is consistent with the possibility that language

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[21]I thank Alberto Bisin for suggesting the Italian saying.

enables the transmission of other ancestry cultural traits.[22]

3.6. Do Attitudes Shape Behavior?

The persistence of attitudes documented in the analysis just presented, while intrinsically important, also begs the question of whether corrupt behavior responds to attitudes towards corruption. The ESS data make it possible to investigate this question on the basis of an item asking about individual bribery experiences.[23] This item comes from a section of the survey that begins with the question: "How often, if ever, have you done each of these things in the last five years?" The relevant item reads: "offered a favour or bribe to

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[22]Nevertheless, some alternative interpretations cannot be ruled out by this analysis. Language spoken at home could simply be a marker for parental effort at inculcating cultural traits in their children. Language could also make it possible for second generation immigrants to maintain contact with the parental country of ancestry and therefore be influenced by contemporaneous bribery attitudes in that country. However, the robustness of the analysis to an alternative explanatory variable that precedes the collection of the respondent's data by almost a decade (presented earlier in the paper) militates against this interpretation. Another way to investigate the hypothesis of contemporaneous influence is by noting that respondents with two immigrant parents should presumably be more likely to maintain contact with their home country. I find that the association between ancestral and respondent norms is statistically identical when allowing the coefficient to vary with an indicator for whether the respondent has one or two immigrant parents (the P value for the interaction terms ranges between 0.3 and 0.5 depending on the specification).

[23]On the use of self reports to measure bribing behavior see Knack 2007, Treisman 2007.

a public official in return for their services?" The possible answers are: never, once, twice, 3 or 4 times, and 5 times or more (coded, respectively, as the integer values 1 through 5). Variation in this variable is limited, with about 98% selecting "never," with the rest selecting "once" or higher. I dichotomize this variable, therefore, so its value is zero when the respondent chooses "never" and 1 otherwise.

I regress the dichotomous measure of bribery experiences on the dichotomous bribery attitudes variable (that functioned as the dependent variable in the preceding analyses), including fixed effects for country of survey and clustering (robust) errors by country of survey. Using all respondents for whom the data contain information on the full set of control variables in model 12, the marginal effect of a unit change in the bribery attitudes variable is -.012 (P < .05, N=23312). Restricting the sample to second-generation immigrants, the coefficient is -.027 (P < .01; N=874). Since the baseline probabilities are small (respectively, 1.6% and 1.8%), these effects are substantively large.[24] Moreover, following the procedure devised by Altonji et al (2005), I find it is unlikely that the full size of the coefficients could be spuriously due to unobservables (the relevant ratio is at least 4). Nevertheless, caveats are in order. For one thing, the analysis cannot rule out the possibility that attitudes rationalize behavior. Also, the dependent variable varies little, raising worries that results depend on few observations (nevertheless, the results are robust across

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[24]They correspond to roughly 10% and 20%, respectively, of the regression sample standard deviations of the dependent variable.

subsamples of very different sizes). With these caveats in mind, the analysis in this subsection is at the very least consistent with the possibility that bribery attitudes function as a causal driver of bribing behavior.

4. Conclusion

The above analysis demonstrated that bribery attitudes persist through generational change. By construction, the research design precludes the possibility that formal institutions could be responsible for this finding, as the formal institutional environment is held constant. The analysis considered, and ruled out, the possibility that attitude persistence might primarily be the result of socioeconomic factors, education, racial, ethnic, or religious discrimination of particular ancestries, selection of ancestries into particular types of occupations, or local country-level conditions such as corruption levels, corruption attitudes, and formal and informal institutions at the country level. The results furnish strong and robust evidence that attitudes toward bribery indeed have a life of their own. In addition, the analysis provides evidence that corruption attitudes are associated with, and potentially a significant driver of, corrupt behavior.

It would be wrong to conclude on the basis of these results that some social groups are inherently more prone to corruption than others. Over the long run, cultural attitudes are probably endogenous to a wide variety of forces (potentially including institutional and structural influences among other things) rather than instances of a deeply ingrained and unchangeable latent cultural force. Even in the short run, corruption-related culture may be malleable un-

der appropriate intervention: Hong Kong's anticorruption efforts in the 1970s, for example, directly targeted public attitudes and rapidly boosted public confidence and participation (Manion 2004). In other words, the question raised by the above results is not whether corruption culture is destiny, but rather how and when such culture matters, how it relates to and interacts with non-cultural factors, and under what circumstances it is likely to drive corrupt behavior.

The findings point to various directions for further research. First, they highlight the importance of understanding more deeply the causal influence of culture on behavior. Insofar as attitudes of cynicism toward corruption feed into behavior, they could have self-reinforcing qualities: believing, for example, that corruption is the only way to succeed could influence education and career choices in ways that subsequently limit non-corrupt avenues for advancement. Similarly, the degree to which individuals in a society believe that a corrupt overture is likely to elicit social disapproval (or, alternatively, to find a willing partner) is likely to influence corrupt behavior as well as subsequent beliefs about the acceptability of corruption.

Second, and relatedly, while the results presented here are based on data for average citizens, there is no reason to assume that high politics are immune from the influence of ideas and attitudes. In fact, insofar as overall discretion is greater at higher levels of the political hierarchy, the weight of ideas and attitudes could potentially be greater at those levels. Whether this conjecture about corruption at the top of the hierarchy is correct, though, remains an open question.

Finally, taken together, the findings presented here suggest that anti-corruption efforts might target corruption-related attitudes directly. More generally, they suggest that clear, nuanced, precise, and operational conceptions of culture belong in the agenda for research on corruption.

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