Individual Attitudes Toward Corruption:
Do Social Effects Matter?[*]

Roberta Gatti
Development Research Group
The World Bank

Stefano Paternostro
Poverty Reduction Group
The World Bank

Jamele Rigolini
Economics Department
New York University

Abstract

Using individual-level data for 35 countries, we investigate the microeconomic determinants of attitudes towards corruption. We consistently find women, employed, less wealthy, and older individuals to be more averse to corruption. We also provide evidence that social effects play an important role in determining individual attitudes towards corruption, as these are robustly and significantly associated with the average level of tolerance of corruption in the region. This finding lends empirical support to theoretical models where corruption emerges in multiple equilibria and suggests that "big-push" policies might be particularly effective in combating corruption.

I. Introduction

Curbing corruption has long been recognized as crucial to the success of policy actions. An extensive body of literature has by now documented the adverse effect of corruption on growth and investment (Mauro, 1995 and Kaufman et al., 1999), on the allocation of public spending on education and health (Mauro, 1997), and, more generally, on the efficient allocation of resources (Krueger, 1974). In parallel, a growing literature has studied the determinants of corruption in an attempt to identify effective policy instruments to combat it. For instance, corruption has been found to be lower in countries with a higher degree of female participation to public life (Dollar et al., 2001, and Swamy et al., 1999); with a higher freedom of press (Treisman, 2000); with a higher degree of competition (Ades and di Tella, 1999); or with more variable inflation (Braun and di Tella, 2002). With the sole exception of Swamy et al. (2001), all of these studies have relied exclusively on cross-country data. However, in the context of the analysis of corruption, cross-sectional analyses at the country level can be in principle problematic, as they do not disentangle the effect of the variables of interest from country-specific institutional factors that are not easily captured by proxies. Furthermore, an in-depth analysis of the microeconomic determinants of corruption can provide more detailed guidance for the targeting of anti-corruption policies.

In this paper we systemically investigate the determinants of corruption at the individual level using data from the World Values Survey (henceforth: WVS), a cross-country program coordinated by the Institute for Social Research of the University of Michigan. The WVS is a questionnaire on individual values and personal characteristics conducted in more than fifty countries, and, among others, contains information on individual's attitudes towards corruption (see below, section IV, for more details).

Our work contributes to the existing literature in two distinct ways. First, it enriches the understanding of corruption with a detailed analysis of its determinants at the individual level across a large number of developed and developing countries. We find women, employed, less wealthy, and older individuals to be more averse to corruption. These results are robust to a number of alternative specifications, including those that account for coun-

try and regional fixed effects. Second, it provides evidence that the social environment has a strong influence on the individual attitudes towards corruption. We find that, *ceteris paribus*, individuals living in regions where people are on average relatively less averse to corruption tend as well to be more forgiving of corruption. This evidence confirms the predictions of theoretical models that highlight the importance of social effects. For example, in Andvig and Moene (1990), the individual incentive to be corrupt is higher the more corruption is widespread, because it is easier to both find corruptible officials as well as to escape punishment. In the same vein, Tirole (1996) shows that, because of information asymmetries, individuals from a group with a bad reputation have less of an incentive to behave honestly.

To our knowledge, our results are the first to systematically document the presence of social effects in corruption. As it has been argued in the case of development traps (Rosenstein-Rodan, 1943, Murphy et al., 1989, Paternostro, 1997), the presence of social effects implies that at the individual level incentives to fight corruption can be low. Therefore, from a policy point of view, social effects imply that an effective fight against corruption often needs to be a coordinated "big push" operating on several fronts at once (Collier, 1999).[1]

The paper is organized as follows. Section II reviews the existing literature. Section III discusses the empirical specification and related econometric issues. Section IV describes the data. Section V presents the results, and Section VI concludes.

II. Existing literature

Two independent strains of literature provide a framework for our work: studies on determinants of corruption and studies of the effects of social networks. Furthermore, there also exists a growing literature that uses the WVS to investigate socio-economic phenomena. We review all three of them below.

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[1] To be sure, there exist in theory cases where a single, well-targeted policy can act as a "social-multiplier" and drive the economy out of a bad equilibrium. Nevertheless, given the persistence and extent of corruption, and the many unsuccessful spurious attempts to fight it, this does not seem to be the case in practice.

II.1 Theory and Empirics of Corruption

Since the seminal contributions of Becker and Stigler (1974) and Rose-Ackerman (1978), corruption has often been studied in a principal-agent framework where the government (the principal) tries to motivate its government official (the agent) to be honest. Although some researchers have argued that a minimal amount of corruption might be efficient because it removes government imposed rigidities (Leff, 1964, Huntington, 1968), or allocates scarce resources to those with the highest willingness to pay (Beck and Maher, 1986, Lien, 1986), the leading view is that, overall, corruption has adverse effects on growth and economic efficiency. Under a corrupt regime, rent-seeking creates obvious distortions (Krueger, 1974). Moreover, agents may also have higher incentives to allocate productive resources to rent-seeking rather than production activities (Baumol, 1990, Murphy, Shleifer and Vishny, 1991), and government official may increase endogenously the amount of red tape in order to extract more rents (Banerjee, 1997).[2] Empirical studies tend to confirm this view. Mauro (1995, 1998) finds that higher levels of corruption are associated with lower growth rates and that more corrupted governments tend to spend more in sectors where it is easier to practice rent-seeking activities. In parallel, Knack and Keefer (1997) find that economic growth is higher in countries where people trust each other and respect civic norms.

In a related strand of research, several studies have investigated how corruption can be the result of a bad equilibrium. Andvig and Moene (1990) argue that the higher the frequency of bureaucratic corruption, the higher is the propensity for a bureaucrat to be corrupted; hence, multiple equilibria with various levels of corruption may arise. In their model, the equilibrium corruption level depends on both supply and demand effects. Demand effects arise because the higher the proportion of corrupted government officials, the easier it is for an agent to find a corruptible official. On the supply side, they introduce an exogenous probability of getting caught by another official, but if the supervisor is also corrupted the official can bribe the latter in order to keep her job. Hence, the higher the number of corrupted officials, the stronger are the incentives for an official to

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[2] For more detailed reviews of those issues, see Bardhan (1997) and Tanzi (1998).

be corrupted.[3] Tirole (1996) analyzes the effects of group reputation on the individual's incentives to be corrupted. He shows that, if the behavior of an individual can only be imperfectly observed and the individual's reputation depends in part on the reputation of the group the individual belongs to, agents from groups that had a bad reputation in the past may have strong incentives to continue behaving badly. This branch of the literature suggests that social effects can have a strong effect on individual behavior.

Finally, an increasing number of studies have investigated empirically the determinants of corruption. For example, Ades and di Tella (1999) find that higher degrees of competition are associated with lower levels of corruption; Treisman (2000) establishes the association of corruption with religion, colonial origins, and the freedom of press; Fisman and Gatti (2002) find corruption to be lower in countries with higher fiscal decentralization. However, all of these studies rely on cross-country and mostly cross-sectional data on corruption and, as a result, cannot analyze the extent to which personal characteristics consistently influence individual's attitudes towards corruption. With the exception of Swamy et al. (2001), who find that women tend to be significantly less corrupted, we are not aware of empirical studies that analyze the determinants of corruption at the individual level, or that investigate the relevance of social effects.

II.2 Empirical Literature on Social Networks

There is a substantial literature on social effects. Evidence of social effects as determinant of individual behavior has been found in studies of crime (Case and Katz, 1991, Glaeser, Sacerdote and Scheinkman, 1996, Ludwig, Duncan and Hirshfeld, 2001), welfare participation (Bertrand, Luttmer and Mullainathan, 2000), health (Katz, Kling and Liebman, 2001), educational outcomes (Sacerdote, 2001), social mobility (Borjas, 1992, 1994), local spillovers and unemployment (Topa, 2001), or shirking behavior (Ichino and Maggi, 2000). Among these, Ichino and Maggi (2000) is the work most closely related to ours. Using data from human resources of a large Italian bank, the authors examine workers' propensity to shirk and find that it depends on individual characteristics, group-interaction effects, as well as sorting of workers across regions.

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[3] A similar framework is also analyzed by Cadot (1987).

These papers either proxy for social effects with average local characteristics or analyze the changes in outcomes for individuals who moved to different areas. In this context, the main methodological concern is the potential bias due to omitted variables. More precisely, the network proxy is likely to capture effects other than the network per se, because individuals with similar unobserved characteristics tend to belong to the same reference group, or because unobserved group's characteristics can systematically influence the dependent variable. One solution to the problem has been to analyze randomized experiments, such as the Moving to Opportunity experiment in Boston (Katz et al., 2001) and Baltimore (Ludwig et al., 2001), or the random assignment of roommates during the first year of college (Sacerdote, 2001). Alternatively, identifying the group of reference by more than one characteristic allows the use of fixed effect estimation at the local level and substantially reduces the potential for omitted variable bias. Bertrand et al. (2000) use this methodology to examine the role of social networks in welfare participation. They characterize the network of every individual by the language she speaks *and* the neighborhood she lives in: by characterizing the network with two indices (language and neighborhood), the authors are able to control for both neighborhood and language group unobservables. In our paper, we shall follow a similar approach (see section V.3 for details).

II.3 Related Works Using WVS Data

A growing economic literature has also used the World Value Survey to analyze the relationship between regional or individual values and economic phenomena. For instance, Knack and Keefer (1997) use the WVS to build various indexes of social capital, and find that social capital is positively correlated with aggregate economic activity. Swamy et al. (2001) show that women have on average a less tolerant attitude towards corruption. Guiso et al. (2002) study the relationship between the intensity and type of religious beliefs and socioeconomic attitudes, such as women's discrimination and trust in government. They find that, although religious people tend to trust others more and be more law abiding, people's attitudes strongly depend on the type of religion. Lastly, MacCulloch

and Pezzini (2002) find that people's revolutionary attitudes depend both on the degree of freedom of the country they live in, and on their religious beliefs.

III. Estimation Method

Our main variable of interest is the individual attitude towards corruption. In the survey, respondents where asked if *"Someone accepting a bribe in the course of their duties"* is a statement they thought can always be justified, never be justified or something in between, using a coding system ranging from 1 (never justifiable) to 10 (always justifiable). Figure 1 presents the share of responses for each category. While 75.4 percent of individuals value the acceptance of bribes as an action that is *never justifiable,* 8.8 percent of the sample provided a rank of 5 or above thus showing a relatively high propensity to condone fraudulent behavior. We use the answer to this question as our measure of the attitude towards corruption. We then regress the individual attitudes towards corruption (BRIBE) on a set of personal characteristics and values, whose summary characteristics are presented in Table 1.

Specifically, we first investigate the determinants of individual attitudes towards corruption *without* including proxies for social effects, and estimate our specifications using ordinary least squares. Since more than 75% percent of individuals value the acceptance of bribes as an action that is *never justifiable* (which implies a substantial mass point at zero), we also performed tobit analyses. However, as results did not change significantly, we do not report them here. Estimation results for the basic specification are reported in Table 2. In column I we control for unobservables by including country fixed effects, while in column II we instead include regional dummies. We find that the estimates of personal characteristics are quite robust to the various regression specifications (see the detailed description below).

We then investigate the role of social effects. To do so, we first need to identify *ex ante* the reference group that may influence the individual's perception of corruption (Manski, 1993). In our case, it is likely that the individual's attitudes towards corruption depend to

a great extent on their interactions with other individuals, as well as on their relation with the public administration. It seems therefore reasonable to choose as our reference group the different regions within each country, and proxy for the social effect with the average of BRIBE within the region where the individual lives (RBRIBE). In addition, the estimation of social effects raise two main methodological concern. The first is the potential bias of the coefficient estimate due to the presence of unobservables. For example, RBRIBE could capture the effect of national institutions that are likely to be correlated with the prevalence of corruption, such as the quality of the jurisdictional system. To correct for this possible bias, we add country fixed effects to the specification. Nevertheless, a similar problem could also arise at the regional level. Since a regional dummy would be perfectly collinear with RBRIBE, we address this issue in section V.2 by exploiting time differences in RBRIBE across two separated waves of the WVS – a first wave conducted in 1990-93 (Wave II) and a second wave conducted in 1995-97 (Wave III, our main dataset): time variation in regional averages of BRIBE allows us to include regional (time invariant) and national (time variant) dummies. Results of this estimation are reported in Table 3.

The second methodological concern is the identification of social effects. To clarify this issue, we follow Manski (1993) and write our regression as:

$$y = \alpha + z'\eta + \beta E(y \mid x) + E(z \mid x)'\gamma + \varepsilon$$

where, in our context, the constant α represents a national dummy capturing the average attitude towards corruption in the country as well as a host of unobservable country characteristics, x represents the reference group to which the individual belongs (in our case, the region), z represents personal characteristics, $E(y|x)$ is the average answer of the reference group (RBRIBE), and $E(z|x)$ represents average characteristics of the reference group (such as, for example, average education in the region). Manski (1993) defines $\beta E(y \mid x) + E(z \mid x)'\gamma$ as the *social effect*. More precisely, in Manski's definition, $\beta E(y \mid x)$ captures the *endogenous* social effect purely due to peer effects, while

$E(z \mid x)'\eta$ represents the *exogenous* effect because it depends on the average distribution of fundamentals.

Manski (1993) shows that, unless additional assumptions are made, it is not possible to disentangle endogenous and exogenous social effects: in our case, this would mean that the estimated coefficient on RBRIBE might reflect both the effect of peer interaction as well as the influence of regional average characteristics on the individual attitudes towards corruption. However, as detailed in the introduction, it remains interesting to verify whether an overall social effect of either endogenous or exogenous nature affects individuals' attitudes towards corruption. To do so, note that, to test whether there are *any* social effects, we simply need to run the following regression:

$$y = \alpha + \beta E(y \mid x) + z'\eta + \varepsilon$$

Under the null hypothesis that there are no social effects at all, estimations of the above regression would deliver insignificant estimates of β. Conversely, we can interpret a significant estimate of β as evidence of social effects.

To implement the estimation we proceed as follows. First, we drop all countries that have only one region, so that only 35 countries are left in the sample (see Table 5). We then estimate the average $E(y_{-i} \mid x)$ for each region (RBRIBE$_{-i}$), where the answer of individual i is omitted from the regional average. We then regress the individual response (BRIBE$_i$) on a country dummy, on personal characteristics, and on the average answer $E(y_{-i} \mid x)$ in the region. Results are reported in Table 2, column III, and Table 3, column II.

Last, we choose not to use the weights provided in the WVS. As we shall see in the next section, several observations contain missing data. Hence, we perform our multivariate analysis without the use of the existing sampling weights. [4] Consequently, we can not

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[4] Nevertheless, we still impose uniform weights on individual observations such that all regions have the same relevance. This is because we analyze social effects at the *regional* level, so that the relevant observation unit is the region, not the individual. Moreover, as in this case we are not hampered by the missing

claim our results to be representative at the national or regional level, but rather circum-scribed to *within* sample inference.

IV. Data Description

The data set we use for the analysis is the World Values Survey and European Values Survey, a cross-country program coordinated by the Institute for Social Research of the University of Michigan. The series is designed to enable a cross-national comparison on values and norms on a wide variety of topics. The novelty of the questionnaire is the coverage of a wide array of individual beliefs on politics, religion and economics. It also provides information on the demographic characteristics of the respondents and their self-reported economic profile. All surveys were carried out through individual interviews to adults aged 18 or older. Currently, three waves of the WVS are publicly available (1981-84, 1990-93, 1995-97). In most specifications we only use data from the 1995-97 wave of the WVS (Wave III). The third wave of the WVS comprises 55 surveys across 49 countries for a total of 78,574 individuals interviewed.[5] The typical sampling design within each country is a multi-stage random selection of sampling points after stratification by region and degree of urbanization.[6]

As we are ultimately interested in measuring the impact of social effects at the regional level, we had to restrict the sample in a number of ways. First, we eliminated all country where the surveys did not contain the variables that are relevant for our analysis (for example, information on education was not available for Japan). Second, we excluded from the sample all surveys conducted on a regional rather than national scale (in Spain, for instance, in addition to the national survey, four additional regional surveys were conducted). Third, to identify social effects we used as a reference group the regional averages; hence, we eliminated all the surveys that did not contain any regional identification.

value problem, in order to guarantee that RBRIBE is representative at the regional level, we used the WVS weights in its computation.

[5] Few surveys were also administered at the sub-national level in Puerto Rico, Tabov District, Montenegro, the Andalusian, Basque, Gallician and Valencian regions of Spain, plus a pilot survey in Ghana. However, they were not included in our analysis (see below).

[6] For a detailed description of the datasets see Inglehart et al. (2000).

Moreover, in order to guarantee some degree of representativity of the regional averages, we also excluded all regions with less than forty observations. Finally, a high number of individual observations were also dropped because of missing data on relevant covariates (see table 8). After these exclusions, our sample consists of 33,780 observations across 35 countries. In the resulting sample almost 40% of the subjects live in a town with more than 100,000 inhabitants, 55% of the subjects have secondary education, 29% define themselves as high income, and 24% are Christian orthodox.

To correct for omitted variable bias at the regional level, we also use data from the 1990-93 wave (Wave II). Although using the 1990-93 wave allows us to exploit time variations in the regional averages of individual attitudes towards corruption, there are disadvantages in pooling the two waves together. In particular, Wave II does not include data on education for most countries, contains a large number of missing observations and also covers a sample of countries and regions that overlaps only partially with that of Wave III. Consistent data for our specification were therefore available in both waves for only 36 regions in 5 countries.

V. Empirical Results

V.1 Basic Specification

Table 2 presents the regression estimates for all 35 countries. Note that by including national (or regional) dummies we implicitly run fixed effect regressions, such that every estimate has to be interpreted as the deviation with respect to the national (or regional) average. Relatively few variables are significantly correlated with BRIBE. However, these correlations are robust across the different regression specifications.

Consistent with the findings of previous studies (Dollar et al., 2001, and Swamy et al., 2001), women seem to be relatively more averse to corruption (lower BRIBE). We do not find a correlation between the degree of education and corruption, but richer individuals are more likely to accept some degree of corruption; in particular, this effect is consistently significant for high income people. People also appear to be more averse to corrup-

tion as they age. Moreover, family values and reported church attendance are associated with higher aversion to corruption. Interestingly, different religious beliefs do not seem to have a significant impact on BRIBE (with the exception of individuals of Jewish religion who consistently report a higher aversion to corruption). Finally, we find that unemployed people display less aversion to corruption. Note that the magnitude of the estimated coefficients is not sensitive to whether the fixed effects are computed at the national or regional level (Table 2, columns I and II).

We then test for the presence of social effects (column III of Table 2). To do so, we simply regress BRIBE on the regional average RBRIBE without the observations of the single individuals, $RBRIBE_{-i}$, while controlling for personal characteristics. As discussed in section III, we interpret RBRIBE as a proxy for both endogenous and exogenous social effects. We consistently find that $\hat{\beta}$ is significantly different from zero, indicating that social effects have overall a significant impact on the individual's perception of corruption. Moreover, the magnitude of the effect is sizeable – a one-standard deviation increase in RBRIBE is associated with an increase of 30% of a standard deviation in the individual attitude towards corruption. Note that the estimates of personal characteristics are quite robust across all regressions, even after including the social effect.

V. 2 High vs. Low and Middle Income Countries

Empirical evidence tends to support the idea that, overall, corruption is associated with low economic performance (see, for instance, the reviews of Bardhan, 1997, and Tanzi, 1998). For example, the correlation between the index of absence of corruption developed by Transparency International (2002) and real GDP per capita is 0.88.[7] Similarly, across the 35 countries in our dataset higher corruption is associated with lower levels of development (correlation of -0.3). In particular, 73.3% of the respondents in developing countries consider accepting a bribe as never justifiable, while the percentage rises to 84.6% in more developed countries. In this context, it is interesting to investigate whether individuals residing in low/high income countries display structural differences with re-

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[7] The corruption index of Transparency International varies from one to ten, where more corrupted countries obtain a lower score.

gards to their attitudes towards corruption.[8] To do so we run our basic regression as in Table 2 for individuals in low and high income countries separately, and then test for model equivalence. Interestingly, we obtain that individuals' behavior is independent from the level of development of the country of residence.[9] In other words, despite the difference in average responses reported above, individual characteristics and social effects appear to affect the perception of corruption in the same fashion both in low and high income countries.

V.3 Regional Unobservables

We cannot rule out that, besides the social effect, RBRIBE also captures a regional fixed effect. To address this issue, we use data from two consecutive waves of the WVS so that we can exploit time variation in RBRIBE while including a regional dummy. More precisely, when exploiting time differences in RBRIBE for every region, we are able to add both regional and country-year dummies. Table 3 presents the results for the sample of regions that are both in Wave II and Wave III. In order to keep the sample size as large as possible, we have used only a subset of the original explanatory variables: in particular, we have dropped educational variables because Wave II did not contain information on the individual's educational level, and we have also eliminated religious beliefs as well as number of children because they significantly decreased the number of observations. However, in light of the robustness of the results of the previous regressions, we do not expect this to significantly alter the estimated coefficient on RBRIBE.

As for the effect of individual characteristics, the estimates tend to confirm our previous results. Women, older individuals, and individuals that have strong family and religious values tend to be more adverse to corruption. As for the social effect, we find RBRIBE to be still significant (at the 10% level), but with a lower estimated magnitude of 0.36 (about half the size of the estimated effect in table 2, column III). A number or factors can explain the smaller magnitude. First, by adding regional and country-time dummies, we analyze whether a higher than average RBRIBE with respect to *both* the regional av-

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[8] Low/high income countries are defined here as countries with GDP per capita below/above 9000 US $ in 1995.

[9] The results of the Chow tests performed are $F(24,33697)=1.48$ for regression (I), $F(24,33454)=0.81$ for regression (II), and $F(25,33695)=1.24$ for regression (III). Therefore, we can not reject the null hypothesis that the two models are equivalent.

erage over the two years and the country average of that year has a positive influence on the individual perception of corruption. Moreover, this setup is quite restrictive, as it requires that the individual perceptions of corruption respond to changes in the social environment within the relatively short period of time that separates the two waves of interview (5 years).

VI. Conclusions

Although issues of governance and corruption have been recently at the center of the academic and policymaking debates, the literature documenting the determinants of corruption at the microeconomic level is scant. This paper attempts to fill this gap in two distinct directions. First, using data from the World Value Survey, a large dataset containing, amongst others, information on personal attitudes towards corruption in more than 50 countries of the developed and developing world, we consistently find women, employed, less wealthy, and older individuals to be more averse to corruption. Second, we investigate the extent to which the social environment influences individual attitudes towards corruption. We find that, *ceteris paribus*, individuals tend to be more forgiving of corruption in regions where, on average, people are relatively less averse to it. Moreover, the social effect seems to be of sizeable magnitude. This suggests that the individual incentives to oppose corruption might be low, and that an effective fight against corruption may need to be a coordinated "big push" operating on several fronts at once.

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Figure 1 Distribution of Answers

Accepting a bribe in the course of duties

Percentage vs BRIBE

- 1 (Never Justifiable): 75.4
- 2: 8.53
- 3: 4.88
- 4: 2.37
- 5: 3.66
- 6: 1.29
- 7: 0.94
- 8: 0.94
- 9: 0.44
- 10 (Always Justifiable): 1.55
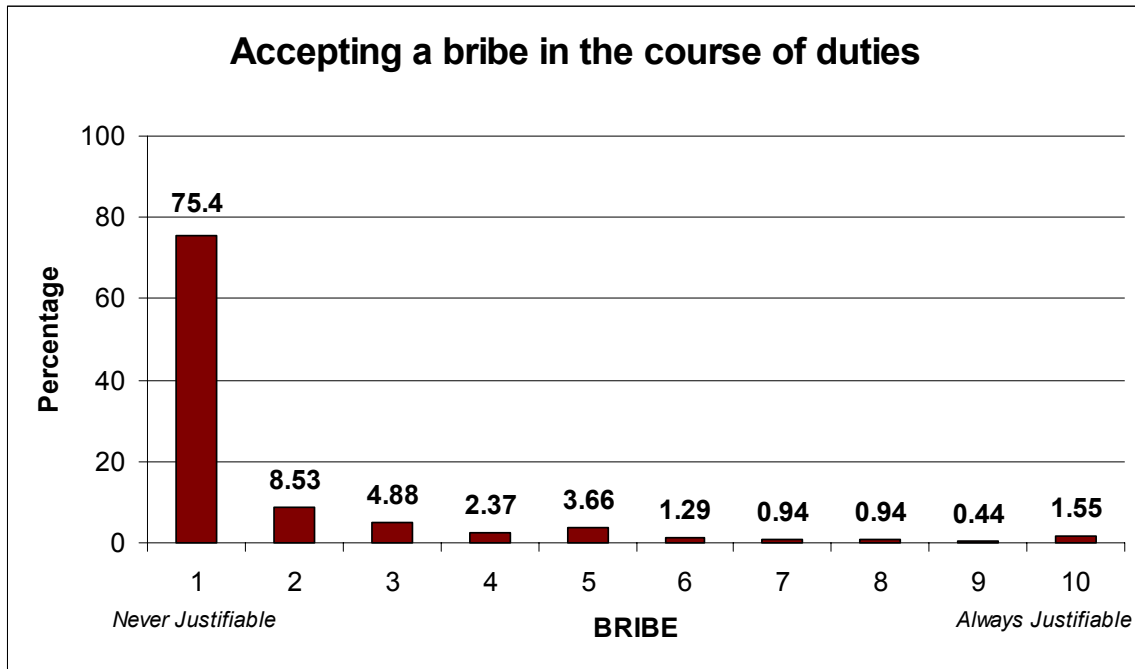
Table 1. Variables Definition and Summary Characteristics

Variable	Description	Mean 1995	St. Dev. 1995	Dummy
BRIBE	*See paper*	1.76	1.78	No
RBRIBE	*Regional average of BRIBE*	1.79	0.65	No
SEX	*Women=1*	0.54	0.50	Yes
SECONDARY	*Has secondary education*	0.55	0.50	Yes
TERTIARY	*Has tertiary education*	0.20	0.40	Yes
MIDDLEINC	*Defines himself as middle income*	0.35	0.48	Yes
HIGHINC	*Defines himself as high income*	0.29	0.46	Yes
MIDDLETOWN	*Lives in a town with 10.000-100.000 inhabitants*	0.26	0.44	Yes
BIGTOWN	*Lives in a town with more than 100.000 inhabitants*	0.39	0.49	Yes
YOUNG	*18-24 years old*	0.07	0.25	Yes
MIDOLD	*45-64 years old*	0.33	0.47	Yes
OLD	*More than 64 years old*	0.12	0.33	Yes
FAMIMP	*Gives importance to the family*	0.90	0.31	Yes
MARRIED	*Married*	0.75	0.44	Yes
CHILDREN	*Number of children*	2.26	1.42	No
CHURCH	*Goes to church at least once a week*	0.20	0.40	Yes
CATHOLIC	*Catholic*	0.23	0.42	Yes
PROTESTANT	*Protestant*	0.09	0.28	Yes
ORTHODOX	*Orthodox*	0.24	0.43	Yes
MUSLIM	*Muslim*	0.06	0.24	Yes
JEW	*Jew*	0.02	0.13	Yes
OTHERREL	*Other religion*	0.16	0.37	Yes
RIGHT	*Defines himself politically from the right*	0.16	0.36	Yes
CENTER	*Defines himself politically from the center*	0.46	0.50	Yes
FULLTIME	*Works fulltime*	0.37	0.48	Yes
UNEMP	*Unemployed*	0.07	0.26	Yes
RCHURCH	*Regional average of CHURCH*	0.19	0.21	No
RELIND	*Regional religious fractionalization*	0.42	0.21	No
NATION	*Nation*			Yes

Table 2. Basic Specifications

Dep. Var.: BRIBE	(I)		(II)		(III)	
RBRIBE					0.855	***
					20.59	
SEX	-0.071	**	-0.086	***	-0.089	***
	-2.11		*-2.85*		*-3.03*	
SECONDARY	0.059	*	0.046		0.046	
	1.77		*1.47*		*1.50*	
TERTIARY	-0.036		-0.027		-0.024	
	-0.59		*-0.52*		*-0.46*	
MIDDLEINC	0.086	**	0.053		0.067	
	2.05		*1.28*		*1.56*	
HIGHINC	0.174	***	0.127	***	0.147	***
	3.03		*2.68*		*2.90*	
MIDDLETOWN	0.046		0.045		0.044	
	0.89		*0.97*		*1.00*	
BIGTOWN	0.062		0.031		0.007	
	1.13		*0.54*		*0.14*	
YOUNG	0.259	***	0.261	***	0.265	***
	2.80		*2.76*		*2.77*	
MIDOLD	-0.164	***	-0.194	***	-0.190	***
	-5.30		*-6.00*		*-6.20*	
OLD	-0.221	***	-0.271	***	-0.264	***
	-4.13		*-5.10*		*-5.22*	
FAMIMP	-0.287	***	-0.299	***	-0.302	***
	-5.12		*-5.36*		*-5.55*	
MARRIED	-0.076	*	-0.072	*	-0.074	*
	-1.78		*-1.90*		*-1.90*	
CHILDREN	-0.021		-0.010		-0.009	
	-1.50		*-0.97*		*-0.77*	
CHURCH	-0.093	**	-0.071	**	-0.073	**
	-2.42		*-2.16*		*-2.19*	
CATHOLIC	0.087		0.138	*	0.121	*
	1.30		*1.72*		*1.76*	
PROTESTANT	0.028		0.029		0.036	
	0.60		*0.58*		*0.77*	
ORTHODOX	-0.077		-0.087		-0.078	
	-1.04		*-1.29*		*-1.29*	
MUSLIM	-0.117		-0.207	**	-0.148	
	-1.13		*-2.07*		*-1.53*	
JEW	-0.153	**	-0.135	*	-0.146	**
	-1.96		*-1.83*		*-2.11*	
OTHERREL	0.087	*	0.056		0.072	
	1.69		*0.92*		*1.25*	
RIGHT	0.085		0.096	*	0.076	
	1.41		*1.93*		*1.56*	
CENTER	0.039		0.023		0.016	
	0.96		*0.57*		*0.42*	
FULL	-0.011		-0.013		-0.019	
	-0.34		*-0.45*		*-0.71*	
UNEMP	0.155	**	0.120	**	0.122	**
	2.21		*2.27*		*2.28*	
CONSTANT	1.941	***	1.750	***	0.473	***
	18.19		*16.14*		*3.38*	
Obs.	33780		33780		33780	
Nations	35		35		35	
Regions	278		278		278	
Dummy	National		Regional		National	

Reference categories - for education: primary schooling; for income: low income; for age: 25-44; geographic: smalltown: <10,000 inhabitants; religion: no religion; political: left wing; employment: self employed and working part-time. *: significant at the 10% level; **: significant at the 5% level; ***: significant at the 1% level.

Table 3. Controlling for unobservables: regressions on data from Wave II and Wave III with regional and country-year fixed effects

Dep. Var.: BRIBE	(I)		(II)	
RBRIBE			0.366	*
			1.7	
SEX	-0.104	**	-0.103	**
	-2.54		*-2.53*	
MIDDLEINC	-0.019		-0.020	
	-0.34		*-0.35*	
HIGHINC	0.010		0.007	
	0.17		*0.12*	
MIDDLETOWN	-0.018		-0.016	
	-0.44		*-0.38*	
BIGTOWN	0.091		0.093	
	1.27		*1.34*	
YOUNG	0.265	***	0.265	***
	4.75		*4.74*	
MIDOLD	-0.171	***	-0.171	***
	-4.11		*-4.06*	
OLD	-0.214	***	-0.217	***
	-3.01		*-3.03*	
FAMIMP	-0.280	***	-0.276	***
	-4.47		*-4.45*	
MARRIED	-0.109	***	-0.108	***
	-3.27		*-3.34*	
CHURCH	-0.073	***	-0.073	**
	-2.6		*-2.57*	
RIGHT	0.019		0.022	
	0.29		*0.34*	
CENTER	0.036		0.037	
	0.69		*0.71*	
FULL	-0.084	***	-0.082	***
	-2.79		*-2.74*	
UNEMP	-0.007		-0.006	
	-0.09		*-0.08*	
CONSTANT	1.87	***	1.32	***
	16.43		*4.08*	
Obs.	14476		14476	
Nations	5		5	
Regions	36		36	
Dummy	Regional		Regional	

Reference categories - for income: low income; for age: 25-44; geographic: smalltown: <10,000 inhabitants; political: left wing; employment: self employed and working part-time. *: significant at the 10% level; **: significant at the 5% level; ***: significant at the 1% level.

Table 4. Country List and BRIBE averages

Country	Observations 1995	Observations 1990	Average BRIBE 1995	Average BRIBE 1990	Only 1 region	High Income
Armenia	1290		2.10			
Australia	1299		1.28			Yes
Azerbaijan	1220		2.67			
Bangladesh	1388		1.03			
Belarus	1648		1.98			
Bosnia	1165		1.57			
Brazil	770	1662	4.00	1.39		
Bulgaria	984		1.89			
Chile	719		1.68			
China	1207		1.20			
Croatia	823		2.04			
Dominican Republic	181		1.82			
East Germany	775		1.99			Yes
Estonia	609		1.51			
Finland	592		1.42			Yes
Georgia	2452		1.88			
Latvia	378		1.98			
Lithuania	766		1.89			
Macedonia	960		1.40			
Mexico	957	1486	2.33	2.75		
Moldova	559		2.25			
Montenegro	168		1.54			
Nigeria	1166		1.89			
Peru	770		1.62			
Russia	1678		1.50			
Serbia	922		1.38			
Slovenia	642		1.84			Yes
Spain	663	3556	1.36	1.49		Yes
Switzerland	713		1.51			Yes
Taiwan	909		1.68			
U.S.A.	1092	1712	1.21	1.48		Yes
Ukraine	2244		1.87			
Uruguay	655		1.27			
Venezuela	858		2.34			
West Germany	558	1937	1.82	1.91		Yes