

Causes of Corruption: Testing Competing Hypotheses

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Abstract

In this paper I argue that for both public officials and citizens, the decision to engage in corrupt behavior is primarily influenced by a personal definition of corruption and individual perceptions of how widespread corrupt activities are (imitation). This explanation borrows from the social learning theory developed by sociologists to understand the causes of various sorts of deviant behavior. I will also show that one of the most popular alternative explanations in political science research on compliance – political and social trust – remains less efficient for explaining an individual's decision to engage in corrupt exchange.

Why are some public officials more prone to corrupt behavior than other officials? Why are some citizens more likely to offer bribes than others? These are important questions for understanding the causes of street-level corruption. Yet, in the midst of the growing number of studies on corruption, these questions have been largely left unanswered. Political scientists and economists alike have devoted a lot of energy to explaining cross-national differences in the level of perceived corruption. This body of research has focused mostly on structural features. However, corruption is ultimately the direct result of decisions, choices and behavior at the level of the individual. One can restructure institutions or political systems, but if individual level motivations for corrupt behavior are not understood, these restructurings may not be effective.

This paper will take an individual level approach and tackle the question of why people engage in corrupt exchange. I will argue that for both public officials and citizens, the decision to engage in corrupt behavior is primarily influenced by a personal definition of corruption and a perception of how widespread corrupt activities are (imitation). This explanation borrows from the social learning theory (Akers 1998) developed by sociologists to explain various sorts of deviant behavior. I will also show that one of the most common explanations in political science research on compliance – political and social trust – remains less efficient for explaining an individual's decision to engage in corrupt exchange.

Causes of corruption

Literature on both the causes and consequences of corruption is voluminous. We now have a substantial body of evidence that corruption has serious costs on both economy in terms of slowing growth and increasing inequality (Ades and DiTella 1996, Gupta, Davoodi, and Alonso-Terne 1998, Mauro 1995); as well as its effects on democracy in terms of decreasing government effectiveness; stability (Adsera, Boix and Payne 2000, La Porta et al. 1998, Mauro 1995); and political legitimacy (Della Porta 2000, Doig and Theobald 2000, Morris

1991, Pharr 2000, Rose et al. 1998, Seligson 2002). Given these negative consequences, researchers have also tried to explain what causes variation in the (mostly perceived) level of corruption. The list of potential causes of corruption is very long including the wealth of a country (Lambsdorff 1999, Mauro 1995, Montinola and Jackman 2002, Paldam 1999), democracy (Amudsen 1999, Lipset and Salman Lenz 2000, Montinola and Jackman 2002, Sung 2004, Treisman 2000), the size of unofficial economy (Lambsdorff 1999), political institutions (Chang and Golden forthcoming, Fisman and Gatti 2000, Gerring and Thacker 2004, Kunicova and Rose-Ackerman 2002, Persson, Tabellini and Trebbi 2003, Treisman 2000), ethno-linguistic diversity (Treisman 2000), political stability (Leite and Weidman 1999, Treisman 2000), trade openness (Wei 2000), public sector recruitment and wages (La Porta et al. 1998, Rauch and Evans 1997, Tanzi 1998, Treisman 2000), and voting turnout (Adsera et al. 2003). Further, in their literature review, Gerring and Thacker (2004) list the following factors as additional causes of corruption: population density, geography, mineral wealth, state formations, colonial legacies, social heterogeneity, clientelism and inequality, religion, media and political culture. Even this extended list does not aspire to be complete, but just serves the purpose of illustrating the myriad of explanations proposed.¹

These explanations, however, focus almost exclusively on the country level. The most common dependent variable in these studies is an aggregate country level measure of the perception of corruption. These approaches, while informative, have two limitations. First, it is often difficult to figure out the cause and effect of corruption: even in the brief review above one can see that similar variables have been proposed both as causes and consequences of corruption. Second, and more importantly for the current study, these aggregate level

¹ An interested reader is advised to look at Andvig and Fjeldstad (2001), Rose-Ackerman (1999), and Gerring and Thacker (2004) for a more complete survey of literature on corruption.

variables tell us little about the actual individual level motivation to engage in corrupt exchange. Individual level motivation, however, is a key to understanding why corruption occurs in the first place, i.e. why people are willing to engage in illegal or immoral behavior. Structural reasons can only be secondary causes of corruption. For example, if people are hard-wired to believe that corrupt behavior is normal or beneficial, institutional or structural changes do little to eliminate corruption. As Uslaner (2004) has suggested, the corrupt exchanges between street level bureaucracies and citizens may be resistant to large-scale structural reform making micro-level analysis even more important.

Individual level causes of corruption

Corruption is most often understood as a “misuse of public office for private gain” (Kunicova and Rose-Ackerman 2003, Rose-Ackerman 1999, Sandholtz and Koetzle 2000, Treisman 2000). Although corruption refers most often to the behavior of public officials, citizens’ willingness to pay bribes or engage in corrupt behavior in some other way feeds the corrupt system, and, thus, becomes an important defining feature on its own. So what explains the readiness of public officials to misuse public office for private gain? And on a related note, what explains the willingness of citizens to pay bribes?

The research on the consequences of social and political trust may offer one potential explanation. The literature on government regulation has argued that the higher the level of trust in government and in one’s fellow citizens, the more likely the citizenry will comply with government demands and regulations (Levi and Stoker 2000, Scholz and Lubell 1998a, 1998b, Tyler 1990, 1998). This literature approaches trust from a rational perspective: trust reflects beliefs about risk and trust is a result of encapsulated interest (Levi and Stoker 2000, Scholz 1998a, 1998b). This rational approach argues that in case of social dilemmas both sides cooperate as long as the other is perceived to be trustworthy. In large-scale collectives (such as entire societies) it becomes more difficult to determine in any single exchange

whether the other party is trustworthy. In these cases, the theory argues, people use trust heuristics obtained from some prior experiences with beneficial collective action. To the extent that people are able to make such a generalization, trust should be related to higher probabilities of compliance (Scholz and Lubell 1998a). Applying this argument to corruption, one would expect that the extent to which people (both public officials and citizens) trust government (i.e. the judicial system and police) to be fair and trust other people to behave fairly, it is rational for them to reciprocate and also behave fairly. Trust, thus, becomes the basis on which non-corrupt exchange is sustained.

Research specifically on corruption, rather than just compliance, has also argued that trust matters. Authors claim a strong relationship between both trust in government and trust in other people on the one hand and the level of corruption on the other, both across countries and at the individual level (Camp, Coleman, and Davis 2000, 2004, Della Porta 2000, Morris 1991, Rothstein 2000, Uslaner and Badescu 2003, 2004). This line of research tends to argue that trust has a positive consequence on reducing corruption via social bonds rather than via rational calculation of utility: “trust leads to empathy with others – and thus a respect for the law” (Uslaner 2004: 10). This mechanism is much less specific and the causal relationship between corruption and trust is not that clear. Seligson (2002), for example, uses individual level data to argue that corruption influences the level of trust in other people and trust in the fairness of the political system. Uslaner (2004), on the other hand, relying on aggregate country level data, establishes a causal link from trust to corruption.² Uslaner and Badescu (2004) establish several reciprocal relationships between political and social trust on the one hand and the perception of and actual encounters with corruption on the other. Given the

² Anderson and Tverdova (2003) and Letki (2005) argue in similar lines, although their modeling procedures do not allow determining the causality directly.

ambivalent support for the trust argument in the context of corruption, it remains, at best, only a partial explanation of the individual level motivation for engaging in corrupt exchange.

A possible alternative explanation of individual motivation to engage in corrupt behavior is offered by the social learning theory (Akers 1998) developed within sociology to explain deviant behavior. The theory is based on four interrelated concepts that operate to promote or undermine conformity: differential association, definitions, differential reinforcement and imitation. These concepts are overlapping and also mutually reinforcing. The basic mechanism of the social learning theory works as follows: behavior is acquired and sustained (1) through adopting definitions favorable to illegal behavior via differential association with one's peers, (2) through imitating such behavior by peers, and (3) through the positive reinforcement provided by rewards for such a behavior (Akers 1998). Given the reciprocal relationships between these variables, the causal order between them is not determined (Akers 1998, Akers et al. 1979, Lanza-Kaduce et al. 1982). Furthermore, as the measures of different concepts of social learning theory are likely to overlap empirically (Akers et al. 1979, Krohn et al. 1985), I will focus here on key variables that can be more or less clearly distinguished: definitions and models of behavior (or imitation).

Definitions constitute normative attitudes toward certain behavior. The more individuals define a behavior as good ("positive" definition) or as justified ("neutralizing" definition) rather than bad ("negative" definition) the more likely they are to engage in it (Akers et al. 1979, Akers 1998). There is a strong and consistent empirical relationship between individual's definitions and attitudes toward the behavior in question and misbehavior in a wide variety of contexts such as substance abuse, sexual aggression, white collar crimes, and police misconduct including police corruption (Krohn et al. 1985, Akers 1998). Furthermore, in their recent study on corruption on Eastern Europe, Miller et al. (2001)

argue that values, i.e. condemnation of bribery, increased resistance to both accepting and paying bribes.

Social behavior is also acquired and sustained through conditioning and imitation or modeling of others' behavior. If people perceive that a behavior is widespread and that there is an approval of problem behavior, then they are more likely to engage in such behavior. Definitions and imitation are mutually reinforcing in their effect on individual's behavior. By using others' behaviors as models, a person learns "evaluative" definitions of behavior as good or bad, right or wrong. To an extent, these definitions are themselves verbal and cognitive behavior, which can be directly reinforced and can act as discriminative stimuli for other behavior (Akers 1985, Kohen et al. 1985). Again, a body of evidence supports the argument that models and approval are the major predictors of problem behavior (Jessor and Jessor 1977, Akes 1998).

In sum, individuals learn from their own past behavior and from their association with peers, both of which condition their evaluative definitions and reinforce imitation. Applying these arguments to situations of corruption, the theory would propose that a willingness to engage in corrupt behavior can be expected to the extent that one does not define corruption as morally or situationally wrong, but rather that it is a justified and acceptable mode for exchange; and that one has been exposed to corrupt behavior or at least perceives that such a behavior is widespread and, thus, approved.

The combination of the arguments based on trust heuristic and social learning allows the formulation of the following three hypotheses to be tested about individual level motivation to engage in corrupt behavior:

H1: The more people trust in government and trust in other citizens the less likely they are to engage in corrupt behavior.

H2a: The more positively people define a corrupt behavior the more likely they are to engage in it.

H2b: The more widespread people perceive a corrupt behavior to be, the more likely they are to engage in it.

Data and measures

The present study draws upon survey data collected in Estonia. This country has been ranked 5.5-6.0 (out of 10, which is the maximum level of corruption) on Transparency International's corruption perception index for the past 7 years. It is because it falls into the middle category of the aggregate comparative scale of perceived levels of corruption that Estonia is a suitable country for conducting an individual level analysis of the determinants of corruption. That is, the individual level relationships uncovered in this analysis are expected to be more broadly representative and generalizable, and less conditional upon the general level of corruption in this country than would be the case when analyzing data from a country placed on either extreme.³ It is, of course, possible to argue that the case of Estonia may carry certain post-communist legacy effects⁴ and, thus, may not be very representative. Yet Estonia itself is not very representative of the post-communist region: together with Slovenia, it is the highest ranking post-communist country on the corruption perception scale, and surpasses even some West European democracies such as Italy and Greece on this scale. Thus, Estonia should be representative of an "average" country and the relationships uncovered using data from this country should be more broadly generalizable, rather than just characterizing a post-communist developmental phase.

³ See Uslaner and Badescu (2003) how relationships between trust and its predictor variables can vary according to what the general comparative level of corruption in a country is.

⁴ See Miller et al. (2001) and Uslaner and Badescu (2003, 2004) on the effect of communist regime and transition on the level of corruption.

As we are interested in the tendency towards corrupt behavior by both public officials and citizens, the study is based on two separate surveys. One of these surveys was conducted face-to-face using a national probability sample of the general public (1002 respondents, response rate: 52%). The other survey was conducted using Computer Assisted Web Interviewing with a sample of public officials. The sample was first selected according to quotas in order to get a representative sample of respondents from the following public sector institutions: (1) ministries, county governments, constitutional institutions, (2) agencies and boards, (3) institutions of law and order, (4) political officials, (5) local governments. The data was then weighted in order to get a general representative sample of public officials (901 respondents). The response rate was lower than in the case of the general public – 36%, which can partially be explained by the method of how the survey was conducted.⁵

Finding a good measure for individual's engagement in corruption is a non-trivial task. Given the sensitivity of the topic, asking directly whether somebody has ever been engaged in corruption is most probably going to lead to an unreliable measure. Especially so

⁵ The surveys were conducted in December 2004 by an Estonian polling firm Emor as part of a research project administered by the Estonian Ministry of Justice on mapping the level of public sector corruption in Estonia. Interviews were conducted in Estonian or Russian depending on the preference of the respondent. Both in the case of the general public as well as in the case of public officials, follow-up contacts were made with a selection of respondents in order to get feedback on how the survey was received. The feedback was overwhelmingly positive increasing the confidence in the reliability of the survey measures. In the case of both surveys the interviewees were not told that the survey was trying to get information on corruption; also, all respondents were guaranteed anonymity. Both of these measures should work towards decreasing bias in response and, in the case of public officials, also the selection bias.

in the case of public officials: while in the case of ordinary citizens such an engagement may occur as a result of extortion, public officials have to take full responsibility for involvement in corruption. Given this, it is preferable to use more subtle questions in order to get at the extent to which public officials are susceptible to corruption. I obtained a measure for *Corruptibility* by presenting the respondents with the following scenario: “Imagine that you are an official, who decides upon whether or not to give financial support for certain projects. One of the applicants for financial support offers you a trip to a summer resort in case you decide in favor of their project. To what extent do you agree with the following statements? (1) I would decide in favor of the project as it would be impolite to refuse the offer; (2) I would decide in favor of the project as there is little chance of getting caught; (3) I would decide in favor of the project as it would be a good economic gain; (4) I would decide in favor of the project as such a counter-favor would be harmless – nobody would suffer; (5) I would decide in favor of the project as it is a rather widespread practice.” For every one of these five options respondents could (1) completely agree, (2) rather agree than disagree, (3) rather disagree than agree, (4) completely disagree. Note that if the respondent agrees (or rather agrees) with any of these statements, they agree to participate in a corrupt exchange. The excuse for agreement becomes irrelevant for our purposes. The dependent variable for public officials is, thus, measured as follows: if the respondent completely agreed or rather agreed than disagreed with any of these five statements, they were assigned the score “1”, the rest of the respondents were assigned the score “0”. Such measurement has face validity. In terms of reliability, responses to a hypothetical scenario are expected to be less contaminated by socially desirable responses than asking for someone’s direct involvement in corruption.

In the case of citizens I had to rely on more direct questions about their involvement in corruption. However, I was able to use two separate indicators, which increases the reliability

of the measurement.⁶ Furthermore, prior research has consistently shown that the self-report questionnaire technique is reliable and valid in measuring even more sensitive topics such as delinquent, drug, and drinking behavior (see Akers et al. 1983, Thornberg and Krohn 2000 for an overview of the validity and reliability of such a measurement). One might still argue, however, that due to the sensitivity of the topic people may be reluctant to reveal their personal involvement. There are two ways that this concern was mitigated. First, in the case of these self-report measures, I have accounted for both personal involvement as well as “witnessing” as respondents may find it easier to refer to a third person even if they themselves were involved. Further, although both indicators ask respondents about their personal involvement in corrupt deals, the blame for the deal could still be shifted to public officials as people may have been extorted. Given the possibility of blame shifting, respondents should be less reluctant to report their personal involvement, enhancing the reliability of the measures.

The following two indicators were used to measure citizen involvement in corruption. First, the respondents were asked “Have you ever paid a bribe or offered a gift to a public official or do you know if any of your friends has, in order to influence the provision of a public service?” “Yes” responses for this question were coded 1 and “no” responses 0 to form a variable *Bribe*. Second, the respondents were presented with different scenarios of corrupt exchange and asked the following: “Please tell me whether you have personally participated

⁶ The analysis with citizens should be treated as a complementary rather than as the main test of the theoretical arguments. As stated earlier the ultimate source of corrupt deals is a corrupt official. If officials refused citizens’ initiative, corrupt exchange would not take place. At the same time, of course, less submissive citizens can curb officials’ greed, which is why understanding the behavior of ordinary citizens in their interactions with public officials is also essential for understanding causes of corruption.

in or witnessed such situations within the past few years: (1) Acquiring a public service or good through acquaintances; (2) Fast-tracking administrative processing through acquaintances with a public official; (3) Offering a gift to a public official; (4) A public official uses official information for his or her own benefit; (5) A public official does a favor in return for a counter-favor; (6) An official makes a business contract on behalf of his or her institution with a company owned by his or her relative; (7) A political party agrees to pass a decision favorable to a company if the latter agreed to make a sizable donation to the party". Again, in the case of all seven scenarios, those who said they had personally participated in or witnessed such a situation were coded 1 and the rest were coded 0. The seven variables were then added together in order to form a count variable of *Involvement* in a corrupt deal.

Trust in other people (*Generalized trust*) was measured for both citizens and public officials by asking a standard question on a four point scale "How trustworthy are most people in Estonia?" *Trust in government* was measured by questions asking respondents to state on a four point scale (1) "Do you think Estonian courts guarantee a fair trial?" (2) "How much do you trust Estonian police?" (3) How much do you trust that Estonian politicians will do what is best for the country?" (alpha = .55, for both citizens and public officials).

For measuring definitions and imitation, series of questions were again used in order to increase reliability of the measures. To set up a further robustness test, definitions were operationalized using two alternative measures. All of these batteries of questions were based on several hypothetical third person scenarios (or vignettes) to present respondents with realistic examples of a variety of corrupt behavior.⁷ *Definitions* were measured by an average⁸

⁷ This is a common technique in social sciences (Chappell and Piquero 2004, Nagin and Paternoster 1993, Weber 1992).

of the respondent's agreement on a 4-point scale with the following definitions: (1) "If a public official accepts a gift for a personal favor then it is corruption"; (2) "If a public official accepts a bribe or a gift in exchange for avoiding a fine or for fast-tracking bureaucratic processing then it is corruption"; (3) "If a person is employed thanks to personal relationships with a senior public official, then it is corruption"; (4) "If a public official sells classified information, then it is corruption" (for public officials $\alpha = .49$, for citizens $\alpha = .67$).⁹

I also used an alternative measure for definitions, called *Acceptance*. The measure is, again based on an average score of the responses (on a 4-point scale) to the following question: "I will now describe you situations that may sometimes happen. Please, tell me to what extent do you find the following situations acceptable? (1) A driver offers a police a good or a service by his or her firm at a discount price in order to avoid a speeding ticket; (2) An entrepreneur offers the headmaster of an elite school¹⁰ a trip to a summer resort for admitting his or her son to the school; (3) A public official uses a government provided car for private purposes; (4) A civil servant offers, for a fee, lectures on the area of his or her work-related expertise; (5) An entrepreneur calls up a public official who he or she knows

⁸ For all of the index measures I also generated factor scores. The results of the analyses remained unaltered regardless of whether factor scores or averages were used. I resorted to using the averages as they preserve the interpretability of the scores.

⁹ All of these situations are classified as "criminal" according to the Estonian Penal Code and Anti-Corruption Act, thus there should not be any confusion about whether the situations referred to can actually be classified as corruption in Estonian culture. The same is true about the situations presented for the alternative measurement of the definitions as well as for situations measuring imitations.

¹⁰ With a very few exceptions all schools in Estonia are public and headmasters as well as teachers are considered public officials.

from previous personal contacts, and asks to fast-track the processing of his or her file; (6) An entrepreneur offers a public official personal favors in return for a public contract; (7) A public official buys goods on behalf of his or her institution from a company owned by his or her relative; (8) A patient is moved up on a waiting list for surgery because his or her brother is friends with the surgeon”; (9) (only in the case of public officials) An entrepreneur offers a public official a good or a service by his or her firm (for public officials $\alpha = .68$, for citizens $\alpha = .81$).

Imitation is based on the same battery of situations as acceptance, only in this case respondents were asked on a 4-point scale “To what extent do you think these are behaviors common in Estonia?” (for public officials $\alpha = .8$, for citizens $\alpha = .85$). All of these measures have considerable face validity: the first measure of Definitions asks directly about how people define corruption. The alternative measure of definitions – Acceptance – also attempts to classify people’s attitudes towards corrupt behavior as either good, bad or neutral, corresponding well to the theoretical concept measured. The measure for imitation asks for the respondent’s perception of how widespread or common corrupt behavior is: if it is perceived as more common and widespread, a person is more likely to imitate it.

In both analyses I will also control for socio-economic and regional variables. Additionally, in the case of public officials, it has been argued that salaries and satisfaction with the workplace in general might influence how prone to corruption they are (Rauch and Evans 2000 see also La Porta et al. 1998, Mauro 1995, Treisman 2000). Thus I will add two controls measuring to what extent the respondent agrees (on a 4-point scale) that (1) “My job is secure and stable” (variable name *Job security*) and (2) “I am satisfied with my salary and benefits” (variable name *Satisfied with salary*) to the analysis of the sample of public officials. The correlation between these two variables is only .19 ($\alpha = .3$), which is why I have entered both to the equation separately. In the case of citizens, I will also control for the

possibility that they have been *Asked to pay a bribe*.¹¹ Further, since some authors have argued that confidence in corrupt deals enhances the further spread of corruption (Lambsdorff 2002), I will also control for whether the person thinks that a bribe influences the quality of the public service (variable name *Bribe helps*).¹²

Analyses

As usual with survey data, the variables included in the models to be analyzed contain a non-trivial degree of missing data. On the one hand, most of the models will be estimated by a non-linear regression, in which case listwise deletion of missing data is less problematic (Allison 2002). On the other hand, missingness reaches 21% in the public officials' dataset and 13% in the case of the general public – levels at which selection bias generated by missing data becomes a reasonable concern (King et al. 2001). Thus, I have used multiple imputations to replace missing observations. An algorithm developed by King et al. (2001) was used for imputation carried out in the statistical program Amelia.¹³ The multiple

¹¹ The index is based on the average of positive responses to the question of whether and how often (seldom, often, every time) they have been asked to pay a bribe for the following public services: (1) applying for a driving license/registering a car, (2) in relation to taxes, (3) applying for a passport or an ID card, (4) in relation to the “property reform”, (5) in courts, (6) in hospitals, (8) by police, (9) in relation to schools, universities or kindergartens, (10) in relation to social services, (11) when crossing the border, (12) by the local government. The measure ranges from 0 (never had to pay) to 1 (had to always pay in relation all of these services).

¹² “To what extent does bribing or gift giving influence the quality of the public service?” 1 = not at all, 2 = not much, 3 = influences quite a bit, 4 = influences a lot.

¹³ For more information about the algorithm and about the program Amelia see <http://GKing.Harvard.Edu>

imputation uses information from all the variables included in the models plus from additional variables in the dataset that are expected to be highly correlated with missingness in order to generate values for missing observations (Allison 2002, King et al. 2001). Amelia generates five imputations – five different datasets for both analyses. The same regressions are then run on each dataset and the results are combined by using the MI procedure in Stata (King et al. 2001).¹⁴ The differences in the results between the analysis with imputed data and with listwise deleted data are not striking, but the imputed data performs more efficiently.

Table 1 reports the summary statistics of the substantively important variables for both datasets. As for the frequency distribution of the dependent variables, the about 14% of the public officials would agree to participate in a corrupt activity. The share of the respondents amongst the general public who admitted that they have bribed an official is about equal size: 17%. About 42% of the respondents claimed that they had never participated in or witnessed a corrupt activity from the list provided (see above); 17% of the respondents had participated in or witnessed more than 5 different types of corrupt activities. These percentages have informative rather than evaluative purpose as without any comparative data, it is difficult to

¹⁴ The multiple imputation estimate of a parameter (univariate mean, regression coefficient, etc.), $\bar{q}$, is the average of the m separate estimates, q_j ($j = 1, \dots, m$): $\bar{q} = \frac{1}{m} \sum_{j=1}^m q_j$. The variance of the point estimate is the average of the estimated variances from within each completed dataset, plus the sample variance in the point estimate across the datasets (multiplied by a factor score): $SE(q)^2 = \frac{1}{m} \sum_{j=1}^m SE(q_j)^2 + S_q^2 (1 + \frac{1}{m})$, where $SE(q_j)^2$ is the estimated variance of q_j from dataset j , and $SE_q^2 = \sum_{j=1}^m (q_j - \bar{q})^2 / (m - 1)$ is the sample variance across the m point estimates (Honaker et al. 2003).

assess whether the shares are too large or reasonably small. In any event, all dependent variables contain enough variance to be analyzed with statistical techniques.

Table 1: Descriptive statistics

Public officials					
	N	Mean	SD	Min	Max
Corruptibility	901	.145	.349	0	1
Generalized trust	901	2.635	.518	1	4
Trust in government	901	2.642	.448	1	4
Definitions	901	1.645	.437	1	4
Acceptance	901	1.752	.425	1	4
Imitation	901	2.809	.432	1	4

General public					
Bribe	1002	.164	.372	0	1
Involvement	1002	1.994	2.237	0	7
Generalized trust	1002	2.628	.614	1	4
Trust in government	1002	2.550	.534	1	4
Definitions	1002	1.779	.576	1	4
Acceptance	1002	2.108	.761	1	4
Imitation	1002	2.939	.517	1	4

Results for public officials

Table 2 presents the results for the analysis of the sample of public officials. As the dependent variable is binary, the model is estimated using logit regression. The table presents both coefficients as well as odds ratios for statistically significant variables for easier interpretation. Model A uses *Definitions* while Model B uses *Acceptance* as the measure of definitions.

The explanations based on generalized trust and trust in government fail to perform in an expected manner: neither of these variables is significant in either model. These results did not change when the variables were entered one by one rather than together or when the different components of trust in government rather than the composed variable were used. Both variables remained insignificant even in the bivariate analysis. Thus, there is no evidence that trust, either in strangers or in government, are associated with lower levels of corruptibility.

Table 2: Logit estimation of the corruptibility of public officials

	Model A		Model B	
Variables	b (SE)	Odds ratio	b (SE)	Odds ratio
Imitation	.922*** (.280)	2.514	.792*** (.291)	2.208
Definition	.576*** (.268)	1.779		
Acceptance			.769*** (.304)	2.157
Generalized trust	-.088 (.252)		-.099 (.262)	
Trust in government	.187 (.278)		.198 (.291)	
Job security	.164 (.149)		.165 (.149)	
Satisfied with salary	-.207 (.169)		-.169 (.166)	
Ethnicity	1.324*** (.391)	3.758	1.093*** (.429)	2.983
Constant	-18.551*** (1.123)		-18.653*** (1.121)	
Controls [#]				
Pseudo-R ²	.107		.114	
Wald χ^2	60.253***		66.211***	
N	901		901	

[#]Controls include: age, sex, education, family income, type of job, region, satisfaction with personal welfare compared to five years ago, how often the respondent follows national news. Note: Dependent variable: *Corruptibility*. Standard errors in parentheses, ***p<.01, one-tailed.

At the same time, the results provide considerable support for the variables derived from the social learning theory. Imitation is a significant predictor of the corruptibility of a public official in both models. For a unit increase in the Imitation score (e.g. from an average of “not at all common” to “not very common”), the odds of agreeing with a corrupt deal increase by a factor of 2.5 (model A) or 2.2 (model B). Thus, moving from the minimum to the maximum, somebody who thinks that corrupt activities are very common is about 10 times more likely to be corruptible than somebody who thinks that corrupt activities are not at all common. This is a very considerable effect. Further, corruptibility is also significantly related to Definitions and Acceptance – the alternative measures of how favorably corrupt activities are described. As predicted by theory, the more acceptable the corrupt behavior is

perceived to be, the greater the likelihood of engaging in it. Indeed, for a unit increase in the Acceptance or Definitions score, the odds of agreeing to participate in a corrupt deal increase about two times. Again, a public official who perceives the different corrupt activities as completely acceptable is about eight times more likely to be corruptible than an official who perceives the same activities as not acceptable at all.

In order to further illustrate the respective and combined effect of the social learning variables, Table 3 presents predicted probabilities for different ideal types using Model A. Increasing Imitation from its minimum to maximum value increases the predicted probability of agreeing with corrupt activity from .021 to .316. Similarly, increasing Definition from its minimum to its maximum value increases the probability of being corruptible from .083 to .359. When both variables are increased from their minimum values to their maximum values, holding other variables at their means, the predicted probability of being corruptible increases considerably: from .014 to .656. To a certain extent this effect reflects the theoretical expectation that Imitation and Definition are mutually reinforcing in their effect on deviant behavior.

Table 3: Predicted probabilities of corruptibility

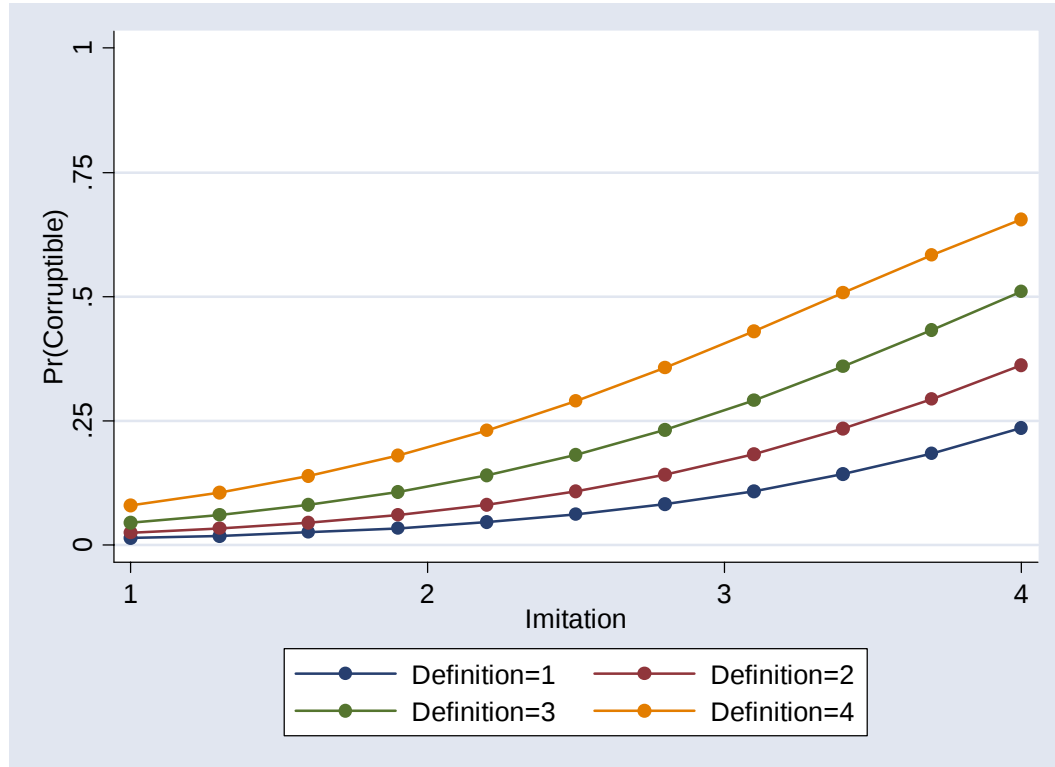
Variable	Predicted probability of being corruptible	
	Minimum	Maximum
Imitation	.021	.316
Definition	.083	.359
Imitation and Definition	.014	.656

Note: All other variables held at their mean.

To further illustrate the interactive effect of these two variables on the probability of being corruptible, consider Figure 1. The figure presents predicted probabilities of corruptibility at different levels of Imitation and Definition. The x-axis denotes values of Imitation while the four different lines indicate different levels of Definition. Clearly, as the value of Imitation increases, the predicted probability of being corruptible also increases. But

the effect is stronger the higher the value of Definition, and strongest when both Imitation and Definition are at their maximum.

Figure 1: Multiplicative effect of Imitation and Definition on the probability of being corruptible



Note: The values of the variable Definitions were grouped into four categories, where 1 = a respondent defines all presented situations as corruption (negative definition)
4= a respondent does not define any of the presented situations as corruption (positive definition)

Thus, the social learning theory outperforms trust-based explanations as a predictor of individual level decision to engage in corrupt activity, at least in the case of public officials. Indeed, the social learning variables are the only independent variables that appear significant in the model. The additional hypothesized relationships based on job satisfaction are also not significant predictors of corruptibility. As for the control variables, one particular effect is worth mentioning: that of the respondent's ethnicity. About 30% of Estonian population is non-Estonian. A majority of the latter are Russians or from nationalities of other former Soviet republics. Ethnicity is a dummy variable coded 0 for Estonians and 1 for all others. The significant coefficient on this variable underlies the importance of cross-cultural

differences in the level of corruption and corruptibility. It supports those who oppose a unified definition and explanation of corruption applicable across cultures. As the current analysis shows, although the individual level motivations for corrupt behavior are accounted for, ethnicity has still a strong effect on the extent to which an official agrees to participate in a corrupt exchange. Similar differences between nationalities have been pointed out also in previous research (Miller et al. 2001). Exploring this finding further is beyond the scope of the current study, but deserves attention in future studies.

Results for the general public

Table 4 reports the results for the analysis of general public. It presents four different models: Models 1 use Bribe as the dependent variable, while Models 2 use Involvement; A and B under different models differ in the measure for definitions: A reports results with Definitions, B with Acceptance. Please note also that Bribe is a binary variable, which is why Models 1A and 1B are estimated with logit. Involvement, however, is a count variable with a considerable overdispersion (for Model 2A $G^2 = 526.59$, $p < .01$; for Model 2B $G^2 = 540.23$, $p < .01$). Thus, models 2A and 2B are estimated with a negative binomial regression model rather than Poisson. Again, the second column reports odds ratios and incidence rate ratios for logit and negative binomial models respectively, for easier interpretation.

As was the case with public officials, the trust-based explanations of engaging in corruption are not supported by the results of the analysis. Both generalized trust and trust in government remain consistently insignificant in all four models. Again, these results are not altered when the trust variables are entered in the models one by one or when trust in government variable is disaggregated into its constituent components. Both variables remain insignificant even if the variables with the strongest effects – extortion and the social learning variables – are excluded from the analyses. In sum, I have been unable to detect any empirical evidence that trust in others or in government is associated with less corruptibility or a

willingness to engage in corrupt activities, both in the case of public officials (demand side) and citizens (supply side).

The variables based on social learning behave similarly to those in the analysis of public officials: both Definition and Imitation are statistically significant in almost all models. The only exception is model 2B where Imitation fails to reach the level of statistical significance. The effects remain significant even when controlling for extortion, i.e. whether the respondents were asked to pay a bribe. This is by far the strongest predictor of both actually having paid a bribe and being involved in a corrupt deal. Indeed, about half of the respondents who had positive scores on the variable Bribe, also stated that they had been asked to pay a bribe. When this variable is excluded from the analysis, the performance of the social learning variables improves even more. The fact that the relationships survive despite including this powerful control offers additional confidence in the theoretical and empirical importance of the social learning variables.

As for the substantive explanation of the social learning variables, consider Model 1. For a unit increase in imitation, the odds of offering a bribe increase by 87% (model 1A) or 53% (model 1B). For a unit increase in positive definitions or acceptability of corrupt activities the odds of offering a bribe increase 40% or 30% respectively. The second and the third column in Table 4 reports predicted probabilities of offering a bribe in order to better illustrate the respective and combined effect of Imitation and Definition. All other variables are held at their means. Increasing the value of Imitation from its minimum to its maximum increases the predicted probability of offering a bribe from .045 to .211; a similar manipulation in the values of Definition increase the predicted probability from .095 to .260; the combined effect of Imitation and Definition amounts to an increase in predicted probability from .033 to .396.

Table 4: Logit and negative binomial estimations of citizens' involvement in bribe giving and other types of corruption

Variables	Dependent variable: Bribe				Dependent variable: Involvement			
	Model 1A		Model 1B		Model 2A		Model 2B	
	b (SE)	Odds ratio	b (SE)	Odds ratio	b (SE)	Incidence rate ratio	b (SE)	Incidence rate ratio
Imitation	.626*** (.225)	1.870	.427*** (.225)	1.533	.160** (.069)	1.173	.005 (.098)	1.005
Definition	.345*** .182	1.412			.177*** (.078)	1.194		
Acceptance			.263*** (.128)	1.301			.174*** (.054)	1.190
Asked to pay bribe	4.965*** (.971)	143.308	4.987*** (.977)	146.496	2.172*** (.349)	8.776	2.204*** (.359)	9.061
Bribe helps	.223 (.142)		.154 (.142)		.170*** (.058)	1.185	.140*** (.058)	1.150
Generalized trust	-.062 (.169)		-.085 (.169)		-.003 (.069)		-.029 (.071)	
Trust in government	-.118 (.201)		-.160 (.203)		-.128 (.081)		-.144 (.082)	
Controls*								
Constant	-7.618*** (1.638)		-6.397*** (1.494)		-.972 (.613)		-.304 (.539)	
Pseudo-R ²	.179		.164					
Wald χ^2	146.48***		146.96***		134.19***		140.30***	
N	1002		1002		1002		1002	

* Controls include: age, sex, education, ethnicity, family income, type of job, region, satisfaction with personal welfare compared to five years ago, how often the respondent follows national news.

Note: Dependent variable for Model 1: *Bribe*, for Model 2: *Involvement*. Standard errors in parentheses, ***p<.01, **p<.05, one-tailed.

In model 2, a unit increase in the Imitation increases the number of corrupt activities that a person has been involved in by about 17 percent. The effect of the alternative measures of definition is almost equal in models 2A and 2B. One unit increase in a positive definition or acceptability of corruption increases the number of corrupt activities a person has been involved with by about 19%. As the dependent variable in Model 2 is a count variable, I have used predicted counts rather than predicted probabilities to illustrate the effects of Imitation and Definition. These predicted counts for different scenarios are reported in the last two columns of Table 5. Increasing the value of Imitation from its minimum to its maximum increases the predicted count of corrupt activities that an individual has been involved with from 1.25 to 2.17. A similar manipulation of the values of Definition increases the respective count from 1.56 to 2.6. The combined effect of these variables is even stronger, as expected: the predicted count increases from 1.09 to 3.17 corrupt activities when both variables are moved from their minimum values to their maximum values, holding other variables at their mean.

Table 5: Predicted probabilities of offering a bribe and predicted counts of corrupt activities an individual has been involved with

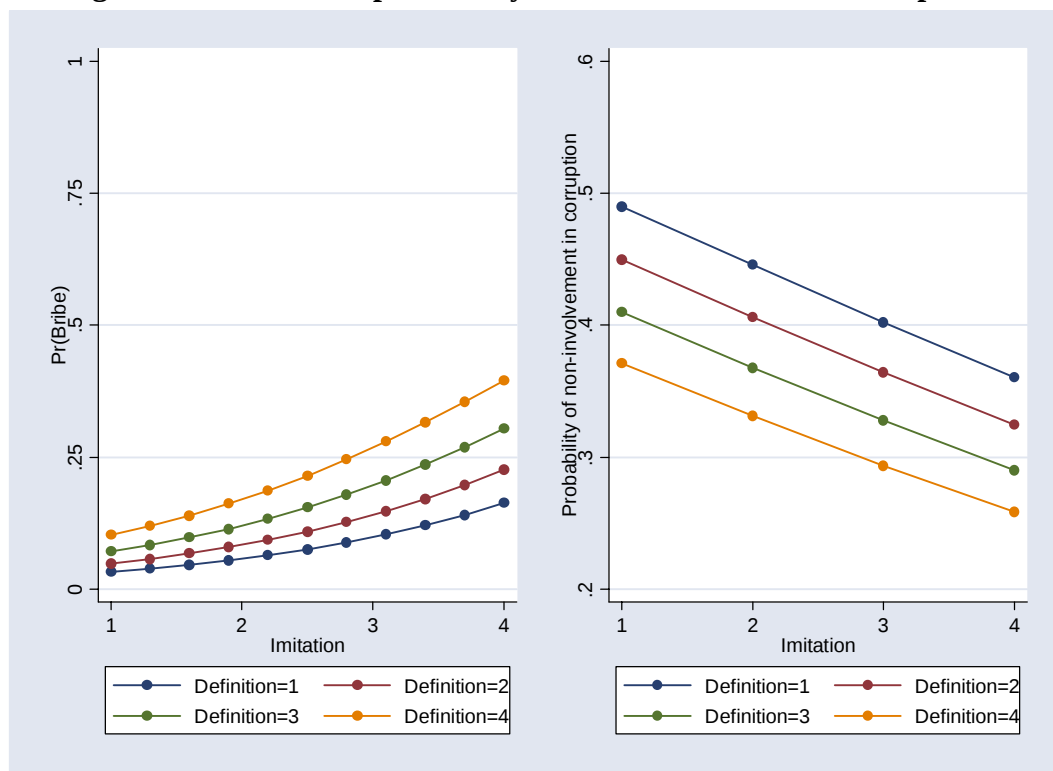
Variable	Predicted probabilities of offering a bribe		Predicted counts of corrupt activities	
	Minimum	Maximum	Minimum	Maximum
Imitation	.045	.211	1.25	2.17
Definition	.095	.260	1.56	2.60
Imitation and Definition	.033	.396	1.09	3.17

Note: Other variables at their mean.

Figure 2 combines two graphs: the one on the left illustrates the interactive effect of Imitation and Definition on the probability of offering a bribe; the one on the right illustrates the same effect on *the probability of zero count of corrupt activities*, i.e. on the probability that an individual has not been involved with any corrupt activities. The presentations differ again because in the latter case, the dependent

variable is a count and it is easier to present predicted probabilities for zero count than for all possible counts separately (Long and Freese 2003). As was the case with public officials, the predicted probability of deviant behavior (in this case, offering a bribe) increases as both the value of Imitation and Definition increases. Furthermore, as the left-hand graph in Figure 2 illustrates, the effect of either variable depends on the value of the other variable. A similar interaction effect is also illustrated in the right-hand graph in Figure 2: as the graph shows the probability of zero counts decreases as the value of both Imitation and Definition decrease, while the effect of either variable depends on the value of the other variable. In sum, the probability of engaging in corrupt behavior, either by offering a bribe or participating in any other type of corrupt exchange increases the more positively people define such behavior and the more widespread they perceive such behavior to be.

Figure 2: Multiplicative effects of Imitation and Definition on the probability of offering a bribe and on the probability of non-involvement in corruption



Note: The values of the variable Definitions were grouped into four categories, where 1 = a respondent defines all presented situations as corruption (negative definition)

4= a respondent does not define any of the presented situations as corruption (positive definition)

In addition to the variable capturing extortion or the extent to which respondents have been asked to pay a bribe and the social learning variables, the belief that a bribe helps to increase the responsiveness of public officials is also a significant predictor of the extent to which an individual engages in corrupt exchange, though not of the probability of offering a bribe. In alternative models (2A and 2B), one unit increase in the belief of the power of bribe increases the number of corrupt activities a person has been involved with by 15-18%. Contrary to the analysis of the sample of public officials, ethnicity does not reach the conventional level of statistical significance in the case of the general public. The variable becomes weakly significant only when the indicator measuring extortion is excluded from the analysis. There is a significant difference between the share of Estonians and non-Estonians who have offered a bribe: the shares are 36% and 48% respectively. For Involvement, the difference, while similar in proportion, is not statistically significant. Thus, nothing conclusive can be inferred about the potential effect of ethnicity in determining corruption. However, the topic of cultural differences in defining corruption is worth pursuing, especially considering that an overwhelming majority of existing studies takes a one-size-fits-all approach to defining corruption across nations.¹⁵

¹⁵ A preliminary look at the differences in the definition, acceptability and perception of commonness of corrupt behaviour between Estonians and non-Estonians using the current datasets and the variables employed in the analyses presented above indicates that these differences are significant both in the case of public officials as well as the general public.

In sum, the empirical models demonstrate rather well the individual level rationale, a utility and value-based calculation of whether or not to engage in corrupt exchange. Both public officials as well as citizens are motivated by their perception of what is acceptable and commonplace behavior in their decision to participate in corruption. At the same time, the general views of government and other people as trustworthy and fair remains inconsequential for such a decision.

Conclusions

Research on corruption is a growth industry. Given the negative consequences of corruption on the economy and democratic legitimacy, there clearly is a need to better understand the causes of corruption. There is a growing list of studies on cross-national variation in (mostly perceived) levels of corruption that have put forward an endless list of economic, structural, institutional, political, and geographic variables that arguably cause some countries to be more corrupt than others. In essence, however, people are corrupt, not countries. Thus, as informative as the cross-national studies of corruption may be about how different structural conditions co-vary with country's level of corruption, they do not tell us about the individual level motivation to engage in corrupt exchange.

This study has taken the individual level approach and tackled the question of why public officials and citizens engage in corrupt exchange. I have argued and shown that willingness to engage in corrupt behavior is more likely when one does not define corruption as morally or situationally wrong, but rather considers it as an acceptable mode for exchange. Furthermore, a willingness to engage in corruption is also enhanced by the perception that such a behavior is widespread and, thus, approved. At the same time, the analyses provide no support for a more common hypothesis for engaging in corrupt behavior – that people who are less trusting of their

fellow-citizens and of government institutions, are more likely to engage in corruption.

These findings have several important implications, related to both policy and theory. First, the results suggest that there are significant interpersonal differences in willingness to engage in corrupt exchange. Thus, the level of corruption is not exclusively a structural phenomenon: within similar structural circumstances some people are more prone to corruption than others. The results also suggest that intervention strategies designed to reduce the street-level corruption should target the social processes through which public officials and citizens learn that corrupt behavior is acceptable. The focus of such effort should be on raising awareness of acceptable and unacceptable (or illegal) behavior, because, as the strong influence of definitions indicated, it is not necessarily that people purposely break the law, but they may just not be aware that what they are doing is corrupt. This is especially important in the case of public officials, who are in the position to either promote or stop a corrupt exchange. Furthermore, the analysis uncovered important linkages between the attitudes and behaviors of public officials; these attitudes may translate directly into “on-the-street” behaviors. In sum, individual level reasons for corruption could more easily be combated by developing a supportive subculture among public officials and by educating the general public than the much more daunting task of instilling trust or through an easier, but perhaps too far removed task of changing institutional structures, as suggested by previous studies.

These are just initial suggestions. Further studies into individual level determinants of corrupt behavior are necessary to be able to make any conclusive recommendations. Future studies might concentrate on the actual process of attitude formation about corruption in order to paint a fuller picture of the social processes

leading to corruption. Other future research might empirically assess the extent to which the definitions and models of behavior are acquired or conditioned via association with one's peers, as Akers' social learning theory suggests, and examine the extent to which bureaucratic subcultures can be conditioned to curb corruption. The results of the current study also provide other leads for further research. I have shown that there may be a significant cross-cultural difference in the definition of corruption and hence in a willingness to engage in corrupt behavior. These differences, although sometimes recognized in a footnote, are usually not taken seriously in cross-national research. Future studies should explore this relationship in order to determine whether the finding is specific to the current dataset, or more general, and thus, more consequential to cross-national research.

Last but not least, this study also contributes to the discussion about the relationship between corruption and trust, both in terms of trust in other people as well as trust in government institutions (or democratic legitimacy as some authors have called it (Seligson 2002)). The non-finding presented in this study does not mean that trust and corruption are not related. Rather, this non-finding helped to clarify when trust and corruption may be related. Given the complex, and under certain conditions, reciprocal relationship between trust and corruption, it is as important to know when trust and corruption are *not* related as when they are. The current study has shown that when engagement in corrupt exchange is voluntary, or even unsuspecting, then the extent to which a person trusts other people or government has no effect on his or her willingness to engage in corrupt activity. This does not invalidate the findings that when extorted, people lose trust in their government (as Seligson 2002 shows) or when being skeptical about one's government and the trustworthiness of other people,

one also tends to perceive others (including government) to be more corrupt (Della Porta 2000).

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