

Do Corruption Indices Measure Corruption?*

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Abstract

This paper presents empirical evidence that the most widely used indices to measure corruption might be biased in systematic ways. Evidence from the International Crime Victimization Survey suggests that actual corruption experience may be a weak predictor of reported corruption perception, and that some of the factors commonly found to “reduce” corruption, such as economic development, democratic institutions or Protestant traditions, systematically bias corruption perception downward from corruption experience. Individual characteristics, such as age, education, income and place of residence, are also shown to influence corruption perceptions holding experience constant. Using information on the different types of corruption experiences, we show that our results are unlikely to be due to the different populations (business executives vs. general public) surveyed.

1 Introduction

Virtually every study using one of the well-known corruption indices (of Transparency International, Political Risk Services, or the World Bank) for empirical work devotes some space to arguing why these measures of corruption *perception* are valid indicators of corruption *experience*. Yet, to our knowledge, no one has undertaken a careful analysis of whether this is in fact the case. This is the goal of the present paper.

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We use a unique cross-country micro dataset compiled from the United Nations' Interregional Crime and Victimization Survey (ICVS) that includes information on individuals' experience with, and perceptions of corruption. The data is obtained through standardized surveys administered in a total of 58 countries in the periods 1996-97 and 2000-01.¹ This survey allows us to perform both aggregate country-level analysis, as is common in the literature,² and micro-level comparisons across individuals. At the country level, our dependent variable is one of the three corruption perception indices commonly used. At the individual level, it is a perception measure obtained directly from the ICVS survey. The independent variables are various measures of corruption *experience* as well as individual and country characteristics.

Our country-level regressions suggest that some of the factors commonly found to “cause” corruption in fact explain corruption perception holding experience constant. In particular, factors such as religion, economic development, and democratic institutions systematically bias corruption perception away from corruption experience. Moreover, controlling for economic development as well as cultural and institutional variables, corruption experience is found to be a statistically insignificant determinant of all three corruption perception indices.

Results at the individual level are in line with these country-level findings. The data shows that several individual characteristics, including education, age, relative income, and place of residence (urban vs. rural), affect corruption perceptions over and above experience. We also confirm the importance of country-level factors in influencing individual perceptions, and find some evidence of regional differences in micro determinants of individual opinions on the likelihood of bribery.

One reaction to these results is that the assessments of experts and business executives on which the perception indices are based might simply capture a different type of corruption than the ICVS survey administered to the general population of a country. We address this possibility by using information on the experience with different types of corruption contained in the ICVS, and show that corruption perception indices do not seem to be a good measure of any particular type of corruption experience in our dataset.

¹ See Section 2 for details.

² Cross-country studies seeking to explain the consequences and / or causes of corruption abound. Mauro (1995) and Treisman (2000) are classic examples. See Jain (2001) for a survey.

We wish to emphasize that our argument is not that any of the data does not measure what it claims to measure. In this analysis, we take the data as given and assume that it is based on representative samples of carefully collected, truthful responses *to the question being asked*. We ignore any potential bias or measurement error in the data collection procedures. Instead, the point we make is that one must be careful when *interpreting* the collected data and the empirical results it yields. Our findings suggest that corruption *perception* indices measure corruption *perception*, and there is little compelling evidence that they measure corruption *experience*. The latter might require more objective measures of corruption.

The need for objective, experience-based indices has recently been articulated in a small number of papers using measures of corruption experience. Seligson (2002) uses survey responses on corruption experience in the general population of four Latin American countries. Clarke and Xu (2004) use surveys of firm executives on the bribes paid to utilities in 21 Eastern European and Central Asian countries. Glaeser and Saks (2006) study US corruption using a dataset of federal corruption convictions. Olken (2006) constructs a measure of corruption in road-building projects in rural Indonesia by using the difference between a village's expenditure and engineers' estimates of actual costs. A common characteristic of these measures is that they cover a specific geographical area, activity, or industry. Thus, while these papers do suggest that there might be differences between perceptions and experience, and illustrate the progress that might be achieved using objective measures, their analyses are not directly relevant for the use of the most widespread corruption indices, and for the interpretation of the large number of empirical studies building on them.³

In the remainder of the paper, Section 2 briefly describes the common corruption perception indices and why a priori they might not be an unbiased measure of experience. Section 3 presents the data, focusing on the ICVS survey used in this paper. Section 4 describes our country-level and individual-level results. Section 5 concludes and discusses some of the implications of our findings.

³ In a recent working paper, Mocan (2005) also analyses the ICVS dataset, and studies the determinants of corruption experience. Because our focus is on the difference between perceptions and experience, our work is complementary to his.

2 Corruption perceptions vs. corruption experience

The most widely used corruption indices are the Corruption Perceptions Index of Transparency International (*CPI*), the corruption index of the International Country Risk Group (*ICRG*), and the Control of Corruption measure from the World Bank's Governance Indicators database (*WB*). All three are measures of corruption perception, with *ICRG* based on expert assessments, and *WB* and *CPI* based on the aggregation of several surveys of experts and business people. A typical survey question asks the respondent to rate the "Extent of corruption in a way that detracts from the business environment for foreign companies" or the degree to which "Bribing and corruption exists in the public sphere" (Lambsdorff, 2000, p12).

It has been common practice to interpret these perception indices as measuring the actual level of corruption in a country. Two reasons often cited to support this interpretation are the fact that corruption is inherently hidden and no objective measures are available, and the fact that the various measures are highly correlated. While these arguments might be more convincing in some contexts than in others, it is clear that *a priori* there could be several reasons why perception indices might *not* reflect the actual levels of corruption.

If the respondent did not have any personal experience with corruption, his assessment is what opinion research experts call purely "attitudinal" (see Bradburn, 1983). These attitudes may be affected by a host of individual factors.⁴ For example, a more educated respondent living in an urban area might have more knowledge about politics or the operation of the bureaucracy, and might be more critical of certain behaviors. He might also have heard of more concrete instances of corruption from personal contacts or from the media. These might make him more likely to report a higher corruption perception. Younger and richer respondents might also be more critical of a corrupt system. At the same time, a richer respondent who benefits from a corrupt climate (e.g., an entrepreneur with political ties) may be reluctant to call these practices "corruption". Attitudes will also be influenced by country characteristics, including the norms about the behavior of political leaders or officials, and the political culture more generally. Respondents from

⁴ See Bertrand and Mullainathan (2001) for a general critique of using attitude surveys in empirical work.

rich and stable democracies with no personal experience with corruption might be more satisfied with their leaders and the functioning of their bureaucracies. On the other hand, these individuals could also be more sensitive to corruption scandals, and specific well-publicized events might have a larger impact on their perceptions.

A respondent with personal corruption experience will be influenced by this experience as well as the attitudinal factors mentioned above. Individual and country characteristics could bias perceptions of corruption, holding experience constant. In addition, an experienced respondent might inaccurately generalize based on his own experience or focus on a particular aspect of corruption that affected him (such as his experience with a particular type of official).⁵

Country characteristics may also affect perceptions in more subtle ways. Psychologists have studied how people's "theories" regarding their mental processes affect how memories are remembered and what reasons an individual gives for her past actions (e.g., Nisbett and Wilson, 1977; Ross, 1989). Nisbett and Wilson (1977, 233) conclude that self-reports about mental processes are often biased by such theories, and "even the instances of correct report are not due to direct introspective awareness. Instead, they are due to the incidentally correct employment of a priori causal theories." To the extent that similar factors operate when people report their perceptions of a country, country characteristics which may influence "the theory" will also affect the reported perception. For example, if people generally think that a rich, democratic country should "theoretically" be less corrupt, then reported perceptions of corruption may be biased downwards for such countries.⁶

One can easily think of questions that may make things even more problematic. Is it acceptable to criticize one's government, by calling it corrupt, to a (possibly foreign) interviewer? Is this acceptable for men but not for women? The point is that whether the commonly used corruption perception indices are in fact closely related to actual corruption is an empirical question that cannot be settled a priori.

⁵ In a different context, Alesina and Fuchs-Schundeln (2006) provide empirical evidence on how individual and political system characteristics affect people's beliefs and attitudes towards state intervention.

⁶ While such theory-based perceptions might also bias measures of corruption experience (e.g., if they bias a subject's memory), this is likely to be less important than for measures explicitly asking about a subject's perceptions as opposed to concrete events.

Clearly, it is important to know how close perceptions are to actual experience both to guide the future use of the perception measures, and for the interpretation of past results in the literature. For example, the finding that corruption hinders economic development might have very different policy implications if it turns out that, in fact, it is *perceived* corruption and diminished political trust that is detrimental to growth. In the remainder of the paper, we use the experience-based measures of the International Crime Victims Survey to investigate the relationship between corruption perceptions and corruption experience.

3 Corruption experience and other data

3.1 International Crime Victims Survey

The International Crime Victims Survey (ICVS) provides information on crime and victimization through a standard questionnaire, the results of which are internationally comparable. The ICVS is conducted by the United Nations Inter-regional Crime and Justice Research Institute (UNICRI).⁷ For the purposes of this paper we use rounds III and IV of the survey, dated to 1996 and 2000 respectively. Two methodologies were applied: telephone interviews, used in industrial countries; and face-to-face interviews, used in city surveys in non-industrialized countries. Table 1 presents the countries included in the two surveys and their proportion of the sample.

The corruption measure we will be using throughout is based on the responses to the following question in the questionnaire:

“In some areas, there is a problem of corruption among government or public officials. During [the past year] has any government official, for instance a customs officer, police officer or inspector in your own country, asked you or expected you to pay a bribe for his services?”

A potential concern about using this question to measure corruption experience may be that the wording of the question (“expected you to pay a bribe”) takes away from the objectivity of the answer and directs the respondent to a less tangible and more perception-

⁷ More information on the surveys, including sampling methodology and datasets, can be found at http://www.unodc.org/unodc/en/research_icvs.html and <http://www.unicri.it/wwd/analysis/icvs/index.php>.

based evaluation. We do not think this is a major source of concern for several reasons. First, the question is asked in the context of a whole survey dealing with crime experiences. In previous and subsequent questions, the same respondents were asked about instances of bicycle theft, armed robbery, sexual assault and the like. Therefore, the context in which the corruption question is asked should direct the respondent's attention to his or her own experience with corruption. Second, cues in the question itself, most notably, reference to "the past year," also refer the interviewee to specific rather than abstract events. Finally, even if subjective elements influence responses, as in any survey, all our analysis needs is that the responses to this question reflect more *experience* and less *perception* than the traditional corruption measures. Since this question explicitly asks about experience, while the corruption perception indices explicitly do not, we believe this is indeed the case.

Our measure of corruption experience for the country-level exercises, *ICVS*, is the weighted means of the answers to the above question. Table 1 presents this index of corruption experience for 1996 and 2000, and indicates the resulting ranking of countries. For comparison, the table also displays each country's rank according to the *WB* corruption perception index. As noted in the literature, the corruption perception indices *WB*, *CPI* and *ICRG* are almost perfectly correlated with each other.⁸ Their correlation with *ICVS*, while high, is clearly lower: 0.69 (*WB*), 0.76 (*CPI*), 0.61 (*ICRG*). This is reflected in some striking discrepancies in the rankings of the countries. For example, in 2000, Argentina and Colombia had neighboring ranks in the *WB* index, while the *ICVS* index ranks them 20 places apart. Conversely, Swaziland and the Ukraine are ranked consecutively in the *ICVS*, but the *WB* perception index puts Swaziland 13 places ahead of the Ukraine. Our empirical work below explores the sources of such discrepancies.

In several countries those individuals who answered affirmatively to the corruption experience question were further prompted to specify the type of official that was involved. In the 1996 version of the survey, the available options were government official, customs officer, police officer, inspector, and other.⁹ The distribution of the answers is shown in Table 2. As the last column shows, almost everyone who indicated having been a victim of

⁸ In our sample, the correlations are 0.98 (*WB-CPI*), 0.87 (*WB-ICRG*), 0.87 (*CPI-ICRG*).

⁹ The 2000 survey included six more categories, resulting in many zeros at the country level, which makes that data hard to interpret.

corruption also specified the type of corruption experience. We again take weighted averages to obtain country scores. The summary statistics for these scores are also in Table 2.¹⁰ The last two columns present the rankings of the countries based on these scores for the categories “government officials” and “police officers”.

The 2000 version of the face-to-face methodology of the surveys also included additional questions on individual *perceptions* of corruption. The question asked (for 12 different categories) was:

“It is known that in some countries the problem of corruption among government or public officials is highly perceived by citizens. Imagine a person who needs something that is entitled to him/her by law. Is it likely or not likely that this person would have to offer money, a present or a favor (i.e., more than official charge), to get help from parliament / ministerial officials / elected municipal councilors / municipal officials / customs officers / police officers / tax-revenue officials / doctors-nurses / inspectors / teachers-professors / officials in courts / private sector/other.”

Answers are coded 1 and 0 for ‘likely’ and ‘not likely’ and we create a simple measure of corruption *perception* by summing up all answers. We interpret this as measuring the respondent’s perception of how widespread corruption is in her society.¹¹ The mean of this variable is 7.65 on a scale from 0 to 12, with a standard deviation of 4.4. Table 3 presents a more detailed breakdown of the respondents’ perceptions. We also create two supplementary perception variables, which try to capture perception of what have been called in the literature “grand” and “bureaucratic” corruption (i.e. political corruption vs. petty bribery). *LIKELY_GRAND* is the sum of perceived corruption indicators by parliament, ministers, and municipal councilors, while *LIKELY_BUREAUCRATIC* sums municipal officers, police, customs officer, tax-revenue officials, inspectors, and court officials. We use these variables both to compare previous corruption perception indices, and to relate the corruption perceptions to actual experiences by the individuals.

¹⁰ The correlation between these measures is always positive and tends to be moderately high, in the 0.2-0.5 range.

¹¹ An issue that one could raise with this way of aggregating corruption perceptions is that it may not be the case that a value of 8 is the same as another value of 8 unless they are made up of exactly the same “likely” responses. While in our index all types of bribery assume equal weight we try to guard against the possibility of non-linearities in the effect of different types of corruption perceptions by re-estimating most of our specifications with probit models where the dependent variable is each particular corruption perception measure.

3.2 Country-level data

Summary statistics and sources for our country-level variables are displayed in Table 4. Most of our independent variables correspond to the explanatory variables used in Treisman's (2000) study on the causes of corruption. These include economic variables (GDP and the share of fuel, ores and metals in exports - to measure resource endowments), and proxies for culture and institutions (share of Protestant population, British legal origins, ethno-linguistic fractionalization, federal states, democratic past). The reader is referred to Treisman's paper for extensive discussions on the literature and theories behind each of these. For some of the countries not included in Treisman's sample we were able to fill in the missing observations going back to the original sources. For ethno-linguistic fractionalization, we take the average of the ethnic and linguistic fractionalization index of Alesina et al. (2003). In some specifications, we include a measure of political trust from the World Values Survey (ICPSR, 2005), which is described below. Table 5 displays the correlations between our explanatory variables and the *ICVS* index for the 2000 sample.

For the individual-level regressions, individual characteristics of the respondents come directly from the *ICVS* survey, which recorded a wealth of information on the gender, age, marital status, place of residence, employment status, schooling, etc. of those interviewed.

4 Results

4.1 Country-level results

We focus our analysis on the *WB* measure because it yields the largest sample size, and use the *CPI* and *ICRG* indices to discuss the robustness of our findings.

The bias. Consider Model (1) in Table 6 which corresponds to the first regression in Treisman (2000, Table 3), and regresses the World Bank measure of corruption perception on the "most exogenous" factors that may cause corruption. The percentage of protestant population, colonial past, and natural resource endowments (as measured by the percentage

of fuel, minerals and metals in total exports) are significant determinants of perceived corruption. *Ceteris paribus*, never having been colonized reduces a country's corruption perception by a little less than one standard deviation, while an increase of one standard deviation (26%) in the share of a country's Protestant population reduces corruption perception by around a half standard deviation.

Model (2) adds the experience-based measure from the ICVS, which turns out to be positive and highly significant. At the same time, the significance of the controls carries over from Model (1). While higher corruption experience implies higher corruption perception, perceived corruption holding experience constant is lower in Protestant countries, countries that have never been colonized, and countries with a less abundant resource base. Note also that the partial effect of corruption experience is considerably smaller than one might expect: a one standard deviation increase in corruption experience raises corruption perceptions by only a half standard deviation. For example, according to these estimates, a one std. dev. increase in a country's protestant population cancels out a one std. dev. increase in its corruption experience, leaving its corruption perception score unchanged.

Following the logic of Treisman (2000), Model (3) adds the log of GDP per capita, which the literature found to have a negative effect on corruption perceptions. Our results show that this negative effect holds even holding corruption experience constant. What is more, adding GDP reduces the coefficient of corruption experience by a factor of 8, making it highly insignificant in explaining corruption perception.¹² The insignificance of experience in explaining perceptions is not due to a large standard error. The coefficient is estimated relatively precisely, and even the upper end of the 95% confidence interval implies that a one standard deviation increase in experience increases perceptions by less than one fifth of a standard deviation.

Model (4) adds the federal structure and democratic past dummies used by Treisman. The following conclusions emerge: more Protestant, richer, and more democratic countries report significantly less corruption holding corruption experience constant. Common law countries and countries that have never been colonized also report less corruption, but

¹² With the *ICRG* perception index, the reduction is by a factor of 2.5. With the *CPI* perception index, including GDP renders the estimated *ICVS* coefficient *negative*. The experience measure is insignificant in both cases.

these effects are not significant. Once these factors are controlled for, corruption experience itself is not a significant determinant of reported corruption.

These results may help explain some of the discrepancies between countries' perception and experience scores or ranks (see Table 1). In 2000, Finland and Belgium, two democratic countries with similar levels of economic development, scored almost identically on the *ICVS*. Nevertheless, the *WB* perception measure put Finland more than one standard deviation ahead of Belgium. In Finland, 93.1% of the population is Protestant, compared to only 0.4% for Belgium. Similarly, Swaziland and Ukraine have similar *ICVS* indices, but Swaziland's *WB* score is almost one standard deviation lower than Ukraine's. Swaziland is a common law country with 33.9% Protestant population. Ukraine is a civil law country with 0% Protestants. Finally, consider Colombia and Argentina, which are similar in terms of most explanatory variables considered here. Their *WB* index is virtually identical, whereas the *ICVS* measure puts Argentina two standard deviations ahead of Colombia.

In an attempt to shed light on the channels through which democratic past and Protestantism might bias corruption perceptions, we include a measure of political trust from the World Values Survey 1999-2002 (ICPSR, 2005). Model (5) in Table 6 shows the effect of including the "Trust in the parliament" variable obtained from this dataset.¹³ Political trust has a large and highly significant negative effect on corruption perception. Moreover, this variable reduces the effect of both democratic past and Protestantism, rendering them insignificant.¹⁴ These results are consistent with the following interpretation: people in countries with democratic and Protestant traditions place more trust in their elected leaders (and the bureaucracies serving them), and this in turn makes these leaders less likely to be perceived as corrupt than a country with similar corruption experience but a less trusting population. Note that the negative effect of GDP remains

¹³ The questions measuring political trust in the WVS include trust in the government, trust in the political parties, trust in the parliament, and perhaps trust in the police and trust in the civil service. All these are highly correlated with each-other (above 0.5), and only the trust in parliament and trust in the police questions were asked in enough countries to make the analysis meaningful. Both yield similar results. The question asked is "I am going to name a number of organizations. For each one, could you tell me how much confidence you have in them: is it a great deal of confidence, quite a lot of confidence, not very much confidence or none at all?"

¹⁴ Including political trust leads to a drop in the number of observations, but this does not drive the results (specification (4) yields identical results in terms of sign and significance on the sample of specification (5)).

significant, federal structure becomes significant, and, surprisingly, ethno-linguistic fractionalization now has a significant negative effect.¹⁵

Columns (6) and (7) replicate the last model with the *CPI* and *ICRG* measures. The main difference is that now the inclusion of political trust leaves Protestantism significant.¹⁶ Except for specification (2), the *ICVS* experience measure is highly insignificant throughout (and sometimes has the wrong sign).¹⁷ Controlling for economic development, political system characteristics, and cultural variables, corruption experience is not a significant determinant of any of the commonly used corruption indices.

Perceptions vs. experience, or different types? One question that naturally arises in connection with the above results is whether the corruption perception indices and the *ICVS* measure might simply be picking up different *types* of corruption. The businessmen and country experts who answer the surveys / queries used by the perception indices might base their evaluations on corruption experience in their professional lives, where they might interact with different kinds of officials, or with individuals at different levels of the political hierarchy, than the general population answering the *ICVS* survey. Could the perception measures capture certain types of experience more than others?

While a full answer to this question cannot be given without an experience-based survey of business executives and country experts comparable to the *ICVS* survey, we are able to address this issue using the information on the different types of corruption experiences contained in the *ICVS* survey (Table 2). The five categories are government officials, police officers, customs officials, inspectors, and “other”. The first four of these categories may all correspond to experiences that businessmen and country experts

¹⁵ Treisman (2000) also finds a negative coefficient on ethnolinguistic fractionalization measures in some specifications, and concludes that they may not be capturing the most significant types of fragmentation.

¹⁶ Political trust is insignificant in the *ICRG* regression, but its inclusion makes the effect of democracy *positive*. With the *CPI* index, the coefficient on democracy drops by more than a half when political trust is included.

¹⁷ Including the square of *ICVS* to allow for a non-linear effect yields similar results. Another variable of potential interest in explaining perceptions given experience is education. We experimented with measures from the *WDI*, but they did not yield significant results, possibly due to a very small resulting sample. As we show below, education does seem to be important in explaining differences in perceptions at the individual level.

encounter in their professional lives.¹⁸ The interpretation of the “other” category is less clear – it may contain experiences that are more relevant for the general population (such as doctors, nurses, or teachers), but it may also be a way for a respondent to avoid specifying the type of official involved.

Table 7 replicates Model (4) from Table 6 for each of the three corruption perception indices, replacing the *ICVS* measure with its decomposition to the different experience-types. As the results immediately show, it does not appear to be the case that perception indices in general are an unbiased measure of some specific type of corruption experience. *GOVERNMENT_OFFICIAL*, *POLICE*, and *OTHER* are each significant exactly once in the three regressions, *CUSTOMS_OFFICIALS* and *INSPECTORS* are never significant, and some of the experience measures have an estimated negative effect on certain perception indices.¹⁹ As the last row of the table shows, the hypothesis that the coefficients of the different type-measures are equal (which is the implicit assumption behind Table 7) is never rejected.

For the *WB* index, police corruption and *OTHER* have a significant positive impact. The latter may suggest that this index is actually driven by experiences that businessmen are *less* likely to base their evaluations on (such as with doctors or teachers), although the above caveats in interpreting the *OTHER* measure must be kept in mind. *CPI*, the most widely used corruption index, is not significantly influenced by any specific type of corruption experience (although the sample here is quite small). In fact, the estimated effect of some types of experience on this index (as well as on the *WB* index) is negative. Finally, corrupt government officials are significant in explaining the *ICRG* measure, which may reflect the interpretation of “corruption” that the experts creating this index have in mind.

¹⁸ Although it might be that a businessman regularly comes into contact with government officials at a different level of the hierarchy than the general public, this is less likely to be so for police or customs officers. Moreover, the extent of corruption on different levels of a given bureaucratic sector (e.g., a ministry) is likely to be highly correlated.

¹⁹ Entering the type-measures one by one would result in coefficients biased upwards, since the type-measures are positively correlated with each-other as well as with perceptions. Nevertheless, the estimated coefficients of such regressions (not shown) are still very small. The largest estimated effect, of “other” (coeff. = 13.12, std. dev. = 7.23), implies that a one standard deviation increase in this category raises the *WB* index by less than one fifth of a standard deviation.

In sum, it does not seem to be the case that our previous findings on the various sources of bias in the corruption perception indices and their weak relation to the experience measure disappears if we restrict attention to some specific type of corruption experience.

How serious? We have provided evidence suggesting that factors commonly cited as determinants of corruption, such as Protestantism, GDP, colonial origin, democratic past and federalism, may in fact systematically bias reported corruption levels away from corruption experience. Still, there is less of a cause for concern if these variables do in fact explain corruption *experience*, rather than merely perceptions.

The results in Table 8 suggest that this might not be the case. As the first two columns of the table show, when the dependent variable is corruption experience rather than perceptions, both in the 1996 and 2000 sample only GDP per capita remains significant with the right sign. Protestantism, federal structure, ethno-linguistic fractionalization and democracy are all insignificant determinants of corruption experience, with fractionalization and democracy sometimes changing signs compared to the perception regressions.

As a comparison, the last two columns show the corresponding regressions for perceptions. We see that the explanatory power of this specification is considerably higher for perceptions than it is for experience. Collectively, our general measures of culture, economic development, and political institutions explain around 90% of the variance in corruption perceptions, but only around 55% of the variance of corruption experience.

4.2 Individual-level results

Because the ICVS is a micro-level survey and asks about individual perceptions (how “likely” corruption is) as well as experience, we can use the data to shed some light on the relationship between *individual* perceptions and experience. This exercise can be viewed as a direct test of whether surveys of corruption perceptions, like the ones underlying the *WB*, *CPI*, and *ICRG* indices, are likely to yield unbiased measures of corruption experience.

The sample for this exercise contains mostly developing countries and new democracies (the list of countries appears below Table 9). As described in Section 3, the *LIKELY* measure of individual corruption perception is constructed by adding up the number of categories for which a respondent finds corruption “likely” (see Table 3). The first feature of the data to note is that people overwhelmingly tend to think that corruption is likely for at least some types of officials. On average, 60 % of respondents think that corruption is likely for at least one of the categories mentioned. At the same time, the average victimization rate is only 30 %. As a consequence, the correlation between corruption perceptions and corruption experience is extremely low (0.11).²⁰

Although a wide literature in psychology shows that recent experiences tend to have the strongest effect in forming perceptions, it is of course possible that corruption perceptions reported here are shaped by earlier experiences, not captured in this survey. At the same time, the correlation between experience and perceptions seems too low to be driven solely by this effect. For example, even if no-one in the sample experienced corruption twice in her life, assuming a constant victimization rate over time, past experience can fully account for perceptions only if some people’s perceptions are influenced by 8-year old experiences in Croatia, 9-year old experiences in the Czech Republic, 10-year old experiences in Hungary, and 22 year-old experiences in South Korea.²¹

The first column of Table 9 regresses the *LIKELY* measure of individual corruption perception on individual victimization (or corruption experience) and individual characteristics such as gender, household income level, education, age, place of residence, marital status, employment status. Without controlling for country characteristics, individual corruption experience from the previous year is not a significant determinant of individual corruption perceptions. Although the standard error of the coefficient estimate can be reduced by introducing country-level controls (column 2), the estimated effect remains very small. Having had personal experience with corruption during the previous year increases the *LIKELY* measure by around 1 point on the 12-point scale. Column 3

²⁰ The correlation between *VICTIM* and a simple dummy (1 if *LIKELY* > 0, 0 otherwise) is similarly low (0.15).

²¹ If corruption experience is i.i.d. across individuals and years, a 90% probability that those with a positive *LIKELY* score have all experienced corruption at least once in the past would require a time horizon of at least 15 years for all countries except Albania.

shows robustness by dropping the outliers Albania and Philippines, and Column 4 checks that the small effect is not due to the refined 12-point scale by having a dummy as the dependent variable. According to Column 4, experience increases the probability of reporting that corruption is likely for at least one category by 6%.

Columns 5 and 6 show that restricting attention to the perceived likelihood of particular types of corruption does not increase the estimated effect of *VICTIM*. Corruption experience adds an estimated 0.5 point on a 6-point scale to the perception of bureaucratic corruption, and an estimated 0.2 point on a 3-point scale to the perception of grand corruption.

As Table 9 shows, there is evidence for the effect of individual and country characteristics on individual perceptions holding experience constant. Individuals with more education, younger people, those living in urban areas, and perhaps those who are employed perceive corruption to be significantly more likely.²² In this restricted sample, the coefficients of the country-level variables vary somewhat, but the estimated signs tend to be consistent with our cross-country results. The share of Protestant population is generally significant; in addition, British legal origins (which in this sample is a dummy for Uganda) and natural resources are sometimes significant.²³ The effects show robustness with respect to outliers (column 3) or the perceptions of different corruption types (columns 5 and 6).²⁴

Finally, Table 10 shows that there are country differences in the size and importance of individual determinants of corruption perceptions, including individual corruption experience. In the table, separate regressions were run for two Eastern European countries, Bulgaria and Hungary, and two East-African countries, Mozambique and Uganda.²⁵ Experience was a significant determinant of perceptions (with a similarly small coefficient as in the combined regressions) in Bulgaria, Hungary, and Mozambique, and was

²² The insignificant income coefficient might reflect measurement error, since this variable was estimated by ICVS staff using the size and age-composition of the household.

²³ *FEDERAL* is not included because it is not identified separately from *NEVERCOLONY*, and *DEMOCRATIC* is not included because it is 0 for all countries considered here. Introducing the 2000 value of the Freedom House's democracy index does not affect the estimates and is insignificant.

²⁴ Results from Probit regressions corresponding to column 3 as well as each of the individual perception categories show a very similar picture and are available upon request.

²⁵ All four samples are from the capital cities (hence the variable *CITY*. *RUBAN* is dropped). In Table 1, the 2000 ranking according to the *WB* (*ICVS*) index puts Bulgaria in 28th (36th) place, Hungary in 18th (24th), Mozambique in 31st (43rd), and Uganda in 41st (44th).

insignificant (with a negative coefficient) in Uganda. Income has a significant positive effect on perceptions in Uganda and a significant negative effect in Bulgaria. Age and education have negative effects in the Eastern European countries (although education is insignificant), but large and significant positive effects in the African countries. Employment has a significant positive effect in Hungary and a significant negative effect in Uganda.

5 Conclusion

We have presented evidence of systematic bias in the most commonly used measures of corruption. A number of factors commonly found to cause corruption seem to bias perceptions away from experience, implying that using corruption *perception* indices as a measure of corruption *experience* may be more problematic than suggested by the existing literature.

We believe these results have two main implications. First, in order to understand the causes and determinants of actual corruption, and to test theories about actual corruption, better measures of actual corruption might be needed. The appearance of micro-level studies, such as the ones mentioned in the introduction, and the ICVS study used here, is a welcome development.

Second, corruption perception indices might have to be reevaluated as measuring corruption perceptions, but not necessarily corruption experience. This in no way diminishes their importance or usefulness. Corruption perceptions are an important part of people's attitude towards political systems and leaders, and affect the level of political trust in a society. It is well known that, in turn, this trust can be an important determinant of investment decisions, political participation such as voting, and other behaviors with real economic consequences. This seems to be well recognized by the US Supreme Court, who views anti-corruption legislation as a means of reducing both the "reality and appearance of corruption" (US Supreme Court, 1976, p58).²⁶

²⁶ The court also stated that "[o]f almost equal concern as the danger of actual quid pro quo arrangements is the impact of the appearance of corruption... In *CSC v. Letter Carriers*, supra, the Court found... that Congress could legitimately conclude that the avoidance of the appearance of improper influence "is also

Viewed in this light, many of the previous studies using corruption perception indices might be usefully rethought as telling us something about the determinants and implications of *corruption perceptions*, and political trust more generally.

Once the difference between corruption perceptions and experience is recognized, a natural task for future research is to study the sources of information about corruption – television/radio, friends/relatives or official source. All of these are prone to biases and all have a role to play in forming opinions, and possibly in driving a wedge between perception and actuality. Another issue of interest is whether and how perception itself affects the real variable. Cabelkova and Hanousek (2004) examine the case of Ukraine and find that corruption perceptions are positively associated with the willingness of the population to give bribes. In his study of Indonesian village corruption, Olken (2006) speculates that the relationship between perception and reality may be an inverse one – the causal link from higher perception to lower actual corruption is mediated by the increased scrutiny that the former begets.

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critical... if confidence in the system of representative Government is not to be eroded to a disastrous extent." 413 U.S., at 565" (US Supreme Court, 1976, p27)

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Table 1 ICVS sample and index of corruption experience

| Country | 1996 | | | | | 2000 | | | | |
|-------------------------|-------|---------|------------|-----------|---------|-------|---------|------------|-----------|---------|
| | Freq. | Percent | ICVS score | ICVS rank | WB rank | Freq. | Percent | ICVS score | ICVS rank | WB rank |
| Albania | 1,187 | 2.01 | 0.130 | 27 | 20 | 541 | 0.8 | 0.725 | 45 | 37 |
| Argentina | 996 | 1.68 | 0.293 | 42 | 23 | 5,245 | 7.79 | 0.059 | 22 | 33 |
| Australia | | | | | | 2,003 | 2.98 | 0.003 | 8 | 8 |
| Austria | 1,507 | 2.55 | 0.007 | 9 | 8 | | | | | |
| Azerbaijan | | | | | | 90 | 0.13 | 0.272 | 40 | 45 |
| Belarus* | 957 | 1.62 | 0.125 | 25 | 40 | 550 | 0.82 | 0.233 | 37 | 27 |
| Belgium | | | | | | 2,499 | 3.71 | 0.003 | 9 | 13 |
| Bolivia | 992 | 1.68 | 0.260 | 41 | 39 | | | | | |
| Botswana* | 639 | 1.08 | 0.029 | 11 | 17 | 1,197 | 1.78 | 0.008 | 12 | 16 |
| Brazil | 1,000 | 1.69 | 0.179 | 33 | 22 | | | | | |
| Bulgaria | 1,066 | 1.8 | 0.193 | 35 | 35 | 574 | 0.85 | 0.229 | 36 | 28 |
| Cambodia | | | | | | 873 | 1.3 | 0.250 | 38 | 39 |
| Canada | 2,132 | 3.61 | 0.004 | 6 | 3 | 2,075 | 3.08 | 0.004 | 10 | 5 |
| Colombia | 984 | 1.66 | 0.195 | 36 | 29 | 241 | 0.36 | 0.320 | 42 | 34 |
| Costa Rica | 997 | 1.69 | 0.100 | 22 | 11 | | | | | |
| Croatia | 974 | 1.65 | 0.162 | 31 | 31 | 739 | 1.1 | 0.094 | 25 | 25 |
| Czech Republic | 1,752 | 2.96 | 0.081 | 21 | 14 | 642 | 0.95 | 0.073 | 23 | 21 |
| Denmark | | | | | | 3,006 | 4.47 | 0.003 | 7 | 3 |
| Estonia | 1,145 | 1.94 | 0.039 | 12 | 21 | 1,679 | 2.49 | 0.052 | 20 | 17 |
| Finland | 3,829 | 6.48 | 0.001 | 1 | 1 | 1,780 | 2.64 | 0.002 | 4 | 1 |
| France | 1,002 | 1.7 | 0.007 | 8 | 9 | 997 | 1.48 | 0.013 | 13 | 11 |
| Georgia | 1,110 | 1.88 | 0.223 | 39 | 43 | 697 | 1.04 | 0.181 | 31 | 38 |
| Hungary | 748 | 1.27 | 0.039 | 13 | 13 | 815 | 1.21 | 0.073 | 24 | 18 |
| India | 1,193 | 2.02 | 0.212 | 38 | 27 | | | | | |
| Indonesia | 1,345 | 2.28 | 0.311 | 43 | 30 | | | | | |
| Kyrgyzstan** | 1,701 | 2.88 | 0.209 | 37 | 38 | | | | | |
| Latvia** | 1,378 | 2.33 | 0.138 | 28 | 34 | 435 | 0.65 | 0.160 | 28 | 26 |
| Lesotho** | | | | | | 1,006 | 1.49 | 0.193 | 32 | 23 |
| Lithuania | 1,169 | 1.98 | 0.111 | 23 | 25 | 631 | 0.94 | 0.261 | 39 | 24 |
| Macedonia | 697 | 1.18 | 0.077 | 20 | 42 | | | | | |
| Malta | 993 | 1.68 | 0.041 | 14 | 19 | | | | | |
| Mongolia | 1,189 | 2.01 | 0.047 | 16 | 18 | 474 | 0.7 | 0.210 | 35 | 30 |
| Mozambique | | | | | | 340 | 0.51 | 0.324 | 43 | 31 |
| Namibia | | | | | | 1,052 | 1.56 | 0.055 | 21 | 14 |
| Netherlands | 2,007 | 3.4 | 0.005 | 7 | 4 | 1,998 | 2.97 | 0.004 | 11 | 4 |
| Nigeria | | | | | | 1,008 | 1.5 | 0.300 | 41 | 44 |
| Panama | | | | | | 551 | 0.82 | 0.113 | 27 | 32 |
| Paraguay | 584 | 0.99 | 0.139 | 29 | 32 | | | | | |
| Philippines | 1,497 | 2.53 | 0.044 | 15 | 28 | 875 | 1.3 | 0.035 | 18 | 36 |
| Poland | 3,460 | 5.85 | 0.048 | 17 | 16 | 5,358 | 7.96 | 0.018 | 15 | 20 |
| Portugal | | | | | | 1,998 | 2.97 | 0.014 | 14 | 12 |
| Romania | 1,083 | 1.83 | 0.115 | 24 | 26 | 817 | 1.21 | 0.209 | 34 | 35 |
| Russia | 1,006 | 1.7 | 0.190 | 34 | 36 | 463 | 0.69 | 0.199 | 33 | 43 |
| Serbia and Montenegro** | 1,089 | 1.84 | 0.175 | 32 | 41 | | | | | |
| Slovakia | 1,091 | 1.85 | 0.141 | 30 | 15 | | | | | |
| Slovenia | 2,044 | 3.46 | 0.012 | 10 | 10 | 2,407 | 3.58 | 0.026 | 16 | 15 |
| South Africa | 996 | 1.68 | 0.076 | 19 | 12 | 1,336 | 1.99 | 0.029 | 17 | 19 |
| South Korea | | | | | | 861 | 1.28 | 0.041 | 19 | 22 |
| Spain | | | | | | 2,908 | 4.32 | 0.002 | 6 | 10 |
| Swaziland | | | | | | 975 | 1.45 | 0.178 | 30 | 29 |
| Sweden | 1,000 | 1.69 | 0.002 | 3 | 2 | 2,001 | 2.97 | 0.001 | 3 | 2 |
| Switzerland | 1,000 | 1.69 | 0.002 | 2 | 5 | 4,234 | 6.29 | 0.000 | 1 | 6 |
| USA | 1,000 | 1.69 | 0.003 | 5 | 7 | 999 | 1.48 | 0.002 | 5 | 9 |

| | | | | | | | | | | |
|----------------|--------------------|------|-------|----|----|--------------------|------|-------|----|----|
| Uganda | 1,191 | 2.01 | 0.237 | 40 | 33 | 974 | 1.45 | 0.355 | 44 | 41 |
| Ukraine | 977 | 1.65 | 0.129 | 26 | 37 | 800 | 1.19 | 0.178 | 29 | 42 |
| United Kingdom | 5,404 | 9.14 | 0.003 | 4 | 6 | 5,513 | 8.19 | 0.001 | 2 | 7 |
| Zambia | | | | | | 1,047 | 1.56 | 0.098 | 26 | 40 |
| Zimbabwe | 1,003 | 1.7 | 0.072 | 18 | 24 | | | | | |
| Total | 59,114 (N = 43) | 100 | | | | 67,304 (N = 45) | 100 | | | |

* Excluded from 1996 sample due to lack of data

** Excluded from the sample(s) due to lack of data

Table 2 Corruption types in ICVS 1996

| Country | Govt. official | Customs official | Police officer | Inspector | Other | Total | Rank Govt. official | Rank Police officer |
|---------------------|----------------|------------------|----------------|-----------|-------|-------|---------------------|---------------------|
| (% of victimized) | | | | | | | | |
| Albania | 34.9 | 12.5 | 7.9 | 18.4 | 26.3 | 100.0 | 33 | 15 |
| Argentina | 3.6 | 7.9 | 70.5 | 17.2 | 0.7 | 100.0 | 15 | 38 |
| Austria | 0.0 | 20.0 | 30.0 | 0.0 | 50.0 | 100.0 | 1 | 10 |
| Bolivia | 21.9 | 5.0 | 43.8 | 16.5 | 12.8 | 100.0 | 34 | 36 |
| Brazil | 7.6 | 20.5 | 46.2 | 25.7 | 0.0 | 100.0 | 16 | 33 |
| Bulgaria | 4.7 | 14.7 | 51.8 | 7.9 | 20.9 | 100.0 | 14 | 35 |
| Canada | 12.5 | 25.0 | 37.5 | 0.0 | 25.0 | 100.0 | 6 | 8 |
| Colombia | 18.5 | 14.9 | 33.8 | 3.1 | 29.7 | 100.0 | 32 | 29 |
| Costa Rica | 11.0 | 4.4 | 25.3 | 50.5 | 8.8 | 100.0 | 17 | 21 |
| Croatia | 22.3 | 10.8 | 46.0 | 3.6 | 17.3 | 100.0 | 28 | 32 |
| Czech Republic | 35.9 | 3.9 | 27.5 | 22.2 | 10.5 | 100.0 | 30 | 20 |
| Estonia | 5.9 | 11.8 | 23.5 | 14.7 | 44.1 | 100.0 | 9 | 13 |
| Finland | 0.0 | 0.0 | 0.0 | 20.0 | 80.0 | 100.0 | 1 | 1 |
| France | 66.7 | 0.0 | 16.7 | 0.0 | 16.7 | 100.0 | 10 | 3 |
| Georgia | 14.1 | 25.7 | 28.6 | 28.2 | 3.3 | 100.0 | 27 | 30 |
| Hungary | 12.0 | 16.0 | 32.0 | 0.0 | 40.0 | 100.0 | 12 | 17 |
| India | 57.5 | 4.7 | 18.9 | 9.8 | 9.1 | 100.0 | 38 | 25 |
| Indonesia | 38.5 | 2.1 | 53.0 | 0.0 | 6.2 | 99.8 | 37 | 37 |
| Lithuania | 23.5 | 23.5 | 32.6 | 5.3 | 15.2 | 100.0 | 24 | 26 |
| Macedonia | 21.6 | 29.4 | 9.8 | 7.8 | 31.4 | 100.0 | 21 | 12 |
| Malta | 30.6 | 47.2 | 8.3 | 2.8 | 11.1 | 100.0 | 19 | 11 |
| Mongolia | 21.8 | 36.4 | 21.8 | 10.9 | 9.1 | 100.0 | 18 | 14 |
| Netherlands | 77.8 | 11.1 | 0.0 | 0.0 | 11.1 | 100.0 | 11 | 1 |
| Paraguay | 26.0 | 11.7 | 28.6 | 29.9 | 3.9 | 100.0 | 29 | 27 |
| Philippines | 45.3 | 7.8 | 29.7 | 7.8 | 9.4 | 100.0 | 23 | 16 |
| Poland | 29.1 | 11.5 | 33.8 | 15.5 | 8.8 | 98.6 | 20 | 18 |
| Romania | 54.0 | 5.6 | 12.9 | 8.1 | 19.4 | 100.0 | 35 | 19 |
| Russia | 15.8 | 6.0 | 49.7 | 9.8 | 18.6 | 100.0 | 26 | 34 |
| Slovakia | 24.8 | 6.0 | 31.5 | 27.5 | 9.4 | 99.3 | 31 | 28 |
| Slovenia | 11.5 | 42.3 | 11.5 | 3.8 | 30.8 | 100.0 | 8 | 5 |
| South Africa | 8.7 | 2.9 | 53.6 | 17.4 | 17.4 | 100.0 | 13 | 24 |
| Sweden | 0.0 | 0.0 | 50.0 | 0.0 | 50.0 | 100.0 | 1 | 7 |
| Switzerland | 0.0 | 40.0 | 40.0 | 0.0 | 20.0 | 100.0 | 1 | 6 |
| USA | 0.0 | 0.0 | 100.0 | 0.0 | 0.0 | 100.0 | 1 | 9 |
| Uganda | 33.3 | 14.5 | 29.5 | 3.0 | 19.7 | 100.0 | 36 | 31 |
| Ukraine | 22.7 | 12.7 | 27.3 | 9.1 | 28.2 | 100.0 | 25 | 23 |
| United Kingdom | 15.4 | 0.0 | 46.2 | 15.4 | 23.1 | 100.0 | 7 | 4 |
| Zimbabwe | 27.9 | 16.2 | 23.5 | 17.6 | 14.7 | 100.0 | 22 | 22 |
| Average Score: | 22.6 | 13.8 | 32.5 | 11.3 | 19.8 | 99.9 | | |
| Mean | 0.024 | 0.012 | 0.038 | 0.014 | 0.014 | | | |
| Std. dev. | 0.029 | 0.013 | 0.049 | 0.018 | 0.015 | | | |
| Min | 0 | 0 | 0 | 0 | 0 | | | |
| Max | 0.12 | 0.061 | 0.209 | 0.061 | 0.055 | | | |

Table 3 Proportion of respondents who indicate bribery is likely (2000)

| | Type of official | | | | | | | | | | | | N |
|----------------|-------------------|-------------------|--------------------|------------------|-----------|-------------------------|-----------------------------------|-----------------------|------------|-------------------|-----------------|-----------------------|--------|
| | police officer | court official | customs officer | doctor /nurse | inspector | ministerial official | elected municipal councilor | municipal official | parliament | private sector | tax official | teacher /professor | |
| Albania | 0.83 | 0.82 | 0.84 | 0.82 | 0.76 | 0.75 | 0.76 | 0.82 | 0.73 | 0.54 | 0.82 | 0.70 | 541 |
| Argentina | 0.93 | 0.87 | 0.93 | 0.31 | 0.89 | 0.93 | 0.93 | 0.93 | 0.93 | 0.78 | 0.90 | 0.24 | 5,245 |
| Azerbaijan | 0.73 | 0.78 | 0.73 | 0.80 | 0.60 | 0.61 | 0.53 | 0.70 | 0.54 | 0.50 | 0.63 | 0.67 | 90 |
| Belarus | 0.73 | 0.65 | 0.69 | 0.73 | 0.57 | 0.62 | 0.60 | 0.60 | 0.57 | 0.55 | 0.71 | 0.70 | 550 |
| Bulgaria | 0.84 | 0.80 | 0.92 | 0.85 | 0.81 | 0.81 | 0.80 | 0.84 | 0.80 | 0.71 | 0.83 | 0.71 | 574 |
| Cambodia | 0.13 | 0.06 | 0.05 | 0.32 | 0.04 | 0.05 | 0.17 | 0.13 | 0.05 | 0.35 | 0.14 | 0.34 | 754 |
| Colombia | 0.87 | 0.77 | 0.83 | 0.40 | 0.73 | 0.81 | 0.83 | 0.85 | 0.89 | 0.59 | 0.75 | 0.43 | 241 |
| Croatia | 0.81 | 0.78 | 0.79 | 0.81 | 0.80 | 0.83 | 0.82 | 0.82 | 0.79 | 0.78 | 0.80 | 0.75 | 739 |
| Czech Republic | 0.61 | 0.51 | 0.59 | 0.51 | 0.59 | 0.59 | 0.53 | 0.59 | 0.51 | 0.51 | 0.54 | 0.31 | 642 |
| Georgia | 0.85 | 0.84 | 0.84 | 0.70 | 0.89 | 0.78 | 0.74 | 0.74 | 0.75 | 0.58 | 0.83 | 0.58 | 697 |
| Hungary | 0.44 | 0.25 | 0.40 | 0.66 | 0.37 | 0.37 | 0.38 | 0.38 | 0.37 | 0.52 | 0.32 | 0.21 | 815 |
| Latvia | 0.65 | 0.62 | 0.65 | 0.69 | 0.63 | 0.59 | 0.60 | 0.62 | 0.57 | 0.58 | 0.60 | 0.48 | 435 |
| Lithuania | 0.83 | 0.83 | 0.87 | 0.84 | 0.81 | 0.79 | 0.76 | 0.81 | 0.78 | 0.67 | 0.83 | 0.72 | 631 |
| Mongolia | 0.69 | 0.68 | 0.72 | 0.69 | 0.67 | 0.70 | 0.67 | 0.68 | 0.70 | 0.59 | 0.70 | 0.69 | 474 |
| Mozambique | 0.72 | 0.79 | 0.78 | 0.69 | 0.73 | 0.60 | 0.45 | 0.68 | 0.38 | 0.53 | 0.64 | 0.41 | 340 |
| Panama | 0.60 | 0.40 | 0.60 | 0.29 | 0.46 | 0.57 | 0.52 | 0.55 | 0.59 | 0.34 | 0.65 | 0.29 | 542 |
| Philippines | 0.13 | 0.11 | 0.12 | 0.10 | 0.11 | 0.13 | 0.13 | 0.12 | 0.13 | 0.10 | 0.13 | 0.10 | 875 |
| Poland | 0.87 | 0.78 | 0.84 | 0.88 | 0.71 | 0.83 | 0.87 | 0.87 | 0.80 | 0.66 | 0.73 | 0.65 | 413 |
| Romania | 0.79 | 0.75 | 0.78 | 0.86 | 0.75 | 0.73 | 0.73 | 0.76 | 0.70 | 0.53 | 0.77 | 0.64 | 817 |
| Russia | 0.89 | 0.84 | 0.86 | 0.82 | 0.69 | 0.86 | 0.86 | 0.88 | 0.82 | 0.72 | 0.83 | 0.85 | 463 |
| Slovenia | 0.53 | 0.51 | 0.62 | 0.59 | 0.60 | 0.68 | 0.65 | 0.65 | 0.65 | 0.68 | 0.53 | 0.41 | 2,407 |
| South Korea | 0.69 | 0.69 | 0.77 | 0.27 | 0.71 | 0.78 | 0.75 | 0.64 | 0.88 | 0.50 | 0.79 | 0.50 | 861 |
| Uganda | 0.20 | 0.01 | 0.54 | 0.17 | 0.04 | 0.26 | 0.31 | 0.26 | 0.25 | 0.07 | 0.18 | 0.01 | 974 |
| Ukraine | 0.83 | 0.78 | 0.83 | 0.85 | 0.81 | 0.77 | 0.77 | 0.79 | 0.76 | 0.78 | 0.83 | 0.79 | 800 |
| Overall | 0.69 | 0.63 | 0.72 | 0.52 | 0.65 | 0.69 | 0.68 | 0.69 | 0.68 | 0.60 | 0.67 | 0.42 | 20,920 |

Table 4 Country-level variables

1996 sample

| Variable | Obs | Mean | Std. Dev. | Min | Max | Description | Source |
|--------------------|-----|-------|-----------|------|-------|---|--|
| <i>ICVS</i> | 38 | 0.1 | 0.09 | 0 | 0.31 | index of corruption experience | UNICRI: Crime Victimization Survey ^a |
| <i>CPI</i> | 22 | 4.43 | 2.6 | 0.92 | 7.42 | index of corruption perceptions | Transparency International ^b |
| <i>WB</i> | 38 | 2.19 | 1.02 | 0.33 | 3.61 | index of corruption perceptions | World Bank Governance Database ^c |
| <i>ICRG</i> | 31 | 1.99 | 1.23 | 0 | 4 | index of corruption perceptions | Political Risk Services ^d |
| <i>LEGOR_UK</i> | 38 | 0.18 | 0.39 | 0 | 1 | 1 if British legal origins | Treisman (2000), La Porta et al (1999) |
| <i>NEVERCOLONY</i> | 38 | 0.18 | 0.39 | 0 | 1 | 1 if never been colonized | Treisman (2000), Alvarez et al (1995) |
| <i>PROTESTANT</i> | 38 | 14.36 | 22.84 | 0 | 93.1 | % of protestant population | Treisman (2000), CIA (2006) |
| <i>ETHLINGFRAC</i> | 38 | 34.64 | 21.57 | 6.61 | 92.65 | index of ethnolinguistic fractionalization | Alesina et al (2003) |
| <i>FUEL/OM</i> | 38 | 13.94 | 13.92 | 0.12 | 59.92 | % of fuel, ore, and metal exports | World Development Indicators ^e |
| <i>LGDP</i> | 38 | 8.08 | 1.39 | 5.42 | 10.36 | log GDP per capita | World Development Indicators ^e |
| <i>DEMOCRATIC</i> | 38 | 0.29 | 0.46 | 0 | 1 | 1 if democratic government in all years 1950-95 | Treisman (2000), Alvarez et al (1995) |
| <i>FEDERAL</i> | 38 | 0.24 | 0.43 | 0 | 1 | 1 if federal structure | Treisman (2000), Forum of Federations ^f |
| <i>TRUSTPARL</i> | 34 | 2.22 | 0.33 | 1.5 | 3.09 | index of trust in parliament | ICPSR (2005) |

Notes. Year 1996 for all time-dependent variables except as follows. *FUEL/OM*: 1997 for Estonia and Indonesia; *PROTESTANT* is for different years from the 80s and 90s; *TRUSTPARL* is for 1999-2002.

^a <http://www.unicri.it/wwd/analysis/icvs>, ^b <http://www.transparency.org>, ^c <http://www.worldbank.org>, ^d <http://www.prsgroup.com>,

^e <http://publications.worldbank.org/WDI>, ^f <http://www.forumfed.org>

2000 sample

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|--------------------|-----|-------|-----------|------|-------|
| <i>ICVS</i> | 43 | 0.12 | 0.15 | 0 | 0.72 |
| <i>CPI</i> | 37 | 4.75 | 2.6 | 0 | 8.8 |
| <i>WB</i> | 43 | 2.03 | 1.17 | 0 | 3.62 |
| <i>ICRG</i> | 40 | 2.5 | 1.41 | 0 | 5 |
| <i>LEGOR_UK</i> | 43 | 0.26 | 0.44 | 0 | 1 |
| <i>NEVERCOLONY</i> | 43 | 0.21 | 0.41 | 0 | 1 |
| <i>PROTESTANT</i> | 43 | 18.72 | 26.05 | 0 | 95.2 |
| <i>ETHLINGFRAC</i> | 43 | 35.67 | 24.22 | 0.2 | 92.65 |
| <i>FUEL/OM</i> | 43 | 19.58 | 22.53 | 0.1 | 99.64 |
| <i>LGDP</i> | 43 | 8.17 | 1.57 | 5.34 | 10.45 |
| <i>DEMOCRATIC</i> | 43 | 0.26 | 0.44 | 0 | 1 |
| <i>FEDERAL</i> | 43 | 0.23 | 0.43 | 0 | 1 |
| <i>TRUSTPARL</i> | 35 | 2.24 | 0.32 | 1.7 | 3.09 |

Notes: Year 2000 for all time-dependent variables except as above, and *FUEL/OM*: 1999 for Mozambique.

Table 5 Correlation matrix (N =43, year = 2000)

| | <i>ICVS</i> | <i>LEGOR_UK</i> | <i>NEVER-COLONY</i> | <i>PROTESTANT</i> | <i>ETHLINGFRAC</i> | <i>FUEL/OM</i> | <i>LGDPPC</i> | <i>DEMOCRATIC</i> | <i>FEDERAL</i> |
|--------------------|-------------|-----------------|---------------------|-------------------|--------------------|----------------|---------------|-------------------|----------------|
| <i>ICVS</i> | 1.00 | | | | | | | | |
| <i>LEGOR_UK</i> | -0.11 | 1.00 | | | | | | | |
| <i>NEVERCOLONY</i> | -0.34 | -0.17 | 1.00 | | | | | | |
| <i>PROTESTANT</i> | -0.42 | 0.25 | 0.34 | 1.00 | | | | | |
| <i>ETHLINGFRAC</i> | 0.14 | 0.44 | -0.34 | 0.01 | 1.00 | | | | |
| <i>FUEL/OM</i> | 0.35 | 0.18 | -0.17 | -0.18 | 0.33 | 1.00 | | | |
| <i>LGDPPC</i> | -0.69 | -0.05 | 0.51 | 0.42 | -0.45 | -0.48 | 1.00 | | |
| <i>DEMOCRATIC</i> | -0.48 | 0.14 | 0.48 | 0.52 | -0.16 | -0.23 | 0.75 | 1.00 | |
| <i>FEDERAL</i> | -0.24 | 0.31 | 0.12 | 0.02 | 0.28 | 0.21 | 0.32 | 0.31 | 1.00 |

Table 6 Determinants of corruption perceptions (2000 sample)

| Dep. Var: | <i>WB</i> | | | | | <i>CPI</i> | <i>ICRG</i> |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| <i>LEGOR_UK</i> | -0.490 (0.398) | -0.334 (0.329) | -0.229 (0.184) | -0.236 (0.152) | -0.256 (0.161) | -0.694 (0.390)* | -0.230 (0.383) |
| <i>NEVERCOLONY</i> | -0.928 (0.325)*** | -0.692 (0.289)** | -0.309 (0.243) | -0.252 (0.245) | -0.180 (0.167) | -0.507 (0.374) | 0.220 (0.386) |
| <i>PROTESTANT</i> | -0.018 (0.004)*** | -0.014 (0.003)*** | -0.010 (0.002)*** | -0.006 (0.002)** | -0.004 (0.002) | -0.020 (0.005)*** | -0.018 (0.006)*** |
| <i>ETHLINGFRAC</i> | 0.007 (0.007) | 0.006 (0.006) | -0.004 (0.004) | -0.006 (0.005) | -0.010 (0.005)* | -0.013 (0.013) | -0.007 (0.010) |
| <i>FUEL/OM</i> | 0.017 (0.005)*** | 0.011 (0.005)** | 0.005 (0.003) | 0.003 (0.003) | -0.001 (0.003) | 0.003 (0.010) | -0.000 (0.006) |
| <i>ICVS</i> | | 2.991 (1.096)*** | 0.363 (0.349) | 0.568 (0.430) | -0.051 (0.333) | -1.906 (2.047) | 0.657 (0.782) |
| <i>LGDPPC</i> | | | -0.521 (0.075)*** | -0.482 (0.120)*** | -0.836 (0.110)*** | -1.624 (0.213)*** | -0.840 (0.269)*** |
| <i>DEMOCRATIC</i> | | | | -0.547 (0.302)* | -0.003 (0.251) | -0.296 (0.577) | 0.419 (0.661) |
| <i>FEDERAL</i> | | | | 0.380 (0.251) | 0.581 (0.221)** | 0.889 (0.534) | 0.998 (0.425)** |
| <i>TRUSTPARL</i> | | | | | -0.462 (0.199)** | -0.965 (0.478)* | -0.449 (0.378) |
| <i>C</i> | 2.125 (0.261)*** | 1.725 (0.231)*** | 6.588 (0.670)*** | 6.311 (1.065)*** | 10.395 (1.170)*** | 21.826 (2.254)*** | 10.607 (2.631)*** |
| Observations | 43 | 43 | 43 | 43 | 35 | 33 | 34 |
| R-squared | 0.62 | 0.72 | 0.87 | 0.90 | 0.95 | 0.95 | 0.81 |

Notes. Robust standard errors in parentheses.

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 7 Determinants of corruption perceptions: different types of experience (1996)

| | Dependent variable | | |
|---|----------------------|---------------------|---------------------|
| | <i>WB</i> | <i>CPI</i> | <i>ICRG</i> |
| <i>GOVT OFFICIAL</i> | -0.890 (2.592) | -1.581 (16.827) | 14.483 (7.903)* |
| <i>POLICE</i> | 2.669 (1.536)* | 8.412 (5.872) | -0.716 (3.098) |
| <i>CUSTOMS OFFICIAL</i> | 6.262 (5.854) | 4.475 (38.378) | 21.465 (20.695) |
| <i>INSPECTOR</i> | 2.968 (4.327) | -8.206 (14.020) | 14.344 (11.068) |
| <i>OTHER</i> | 12.287 (5.948)** | 14.091 (36.779) | 0.940 (11.337) |
| <i>LEGOR_UK</i> | -0.269 (0.191) | -0.609 (0.511) | 0.245 (0.367) |
| <i>NEVERCOLONY</i> | 0.012 (0.216) | -0.429 (0.532) | 0.904 (0.445)* |
| <i>PROTESTANT</i> | -0.006 (0.004) | -0.016 (0.009) | -0.016 (0.006)** |
| <i>ETHLINGFRAC</i> | -0.000 (0.005) | -0.019 (0.012) | -0.002 (0.009) |
| <i>FUEL/OM</i> | -0.008 (0.007) | -0.013 (0.031) | -0.002 (0.012) |
| <i>LGDPPC</i> | -0.354 (0.093)*** | -1.226 (0.498)** | -0.049 (0.256) |
| <i>DEMOCRATIC</i> | -0.607 (0.195)*** | -0.591 (0.837) | -1.055 (0.401)** |
| <i>FEDERAL</i> | 0.176 (0.172) | 0.982 (0.508)* | 0.077 (0.297) |
| <i>C</i> | 5.068 (0.840)*** | 15.779 (4.786)** | 2.047 (2.630) |
| Observations | 38 | 22 | 31 |
| R-squared | 0.91 | 0.96 | 0.84 |
| F-test: equal type-coefficients [p-value] | 1.48 [0.24] | 0.31 [0.87] | 0.59 [0.67] |

Notes. Robust standard errors in parentheses.

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 8 Determinants of corruption experience

| Dependent variable: | <i>ICVS 1996</i> (1) | <i>ICVS 2000</i> (2) | <i>WB 1996</i> (3) | <i>WB 2000</i> (4) |
|---------------------|-------------------------|-------------------------|-----------------------|-----------------------|
| <i>LEGOR_UK</i> | -0.047 (0.032) | -0.035 (0.025) | -0.383 (0.158)** | -0.256 (0.152) |
| <i>NEVER COLONY</i> | -0.006 (0.028) | -0.021 (0.026) | 0.038 (0.206) | -0.264 (0.243) |
| <i>PROTESTANT</i> | -0.001 (0.001) | -0.001 (0.000) | -0.008 (0.003)** | -0.007 (0.002)** |
| <i>ETHLINGFRAC</i> | 0.001 (0.001) | -0.002 (0.001) | 0.001 (0.004) | -0.006 (0.004) |
| <i>FUEL/OM</i> | 0.000 (0.001) | 0.000 (0.001) | -0.005 (0.010) | 0.003 (0.003) |
| <i>LGDPCC</i> | -0.031 (0.011)*** | -0.091 (0.035)** | -0.439 (0.084)*** | -0.533 (0.106)*** |
| <i>FEDERAL</i> | 0.054 (0.041) | 0.036 (0.053) | 0.294 (0.161)* | 0.400 (0.244) |
| <i>DEMOCRATIC</i> | -0.013 (0.033) | 0.087 (0.047)* | -0.764 (0.219)*** | -0.498 (0.295) |
| <i>C</i> | 0.347 (0.100)*** | 0.909 (0.344)** | 6.090 (0.685)*** | 6.827 (0.901)*** |
| Observations | 38 | 43 | 38 | 43 |
| R-squared | 0.54 | 0.56 | 0.87 | 0.90 |

Notes. Robust standard errors in parentheses; * significant at 10%; ** significant at 5%; *** significant at 1%

Table 9 Determinants of individual corruption perceptions (2000)

| Dependent var.: | <i>LIKELY</i> (1) | <i>LIKELY</i> (2) | <i>LIKELY</i> (3) | <i>LIKELY</i> 0/1 ^a (4) | <i>LIKELY</i> <i>BUREAUCRAT</i> ^b (5) | <i>LIKELY</i> <i>GRAND</i> ^c (6) |
|---------------------|----------------------|----------------------|----------------------|---------------------------------------|--|---|
| <i>VICTIM</i> | 1.154 (0.695) | 1.123 (0.277)*** | 0.920 (0.286)*** | 0.058 (0.014)*** | 0.523 (0.146)*** | 0.192 (0.081)** |
| <i>MALE</i> | 0.222 (0.246) | 0.129 (0.146) | -0.084 (0.101) | 0.003 (0.009) | -0.029 (0.054) | 0.001 (0.033) |
| <i>INCOME LEVEL</i> | 0.496 (0.634) | 0.271 (0.428) | -0.240 (0.237) | -0.005 (0.018) | -0.083 (0.126) | -0.083 (0.061) |
| <i>EDUC. LEVEL</i> | 0.922 (0.229)*** | 0.413 (0.155)** | 0.432 (0.157)** | 0.018 (0.006)*** | 0.240 (0.090)** | 0.147 (0.039)*** |
| <i>AGE: 25-54</i> | -0.052 (0.292) | 0.070 (0.174) | -0.029 (0.182) | -0.032 (0.013)** | 0.057 (0.105) | -0.056 (0.058) |
| <i>AGE: 55-</i> | -0.078 (0.719) | -0.257 (0.457) | -0.804 (0.409)* | -0.088 (0.026)*** | -0.350 (0.227) | -0.304 (0.106)** |
| <i>CITY: URBAN</i> | 3.964 (1.268)*** | 4.043 (1.383)*** | 4.393 (1.988)** | 0.063 (0.079) | 2.335 (1.084)** | 1.211 (0.494)** |
| <i>MARRIED</i> | 0.145 (0.439) | -0.197 (0.265) | 0.163 (0.182) | 0.013 (0.007)* | 0.040 (0.100) | 0.042 (0.053) |
| <i>WORKING</i> | 0.053 (0.247) | 0.088 (0.220) | 0.287 (0.150)* | 0.020 (0.010)** | 0.127 (0.078) | 0.066 (0.040) |
| <i>LEGOR_UK</i> | | -1.370 (2.479) | -5.070 (1.707)*** | 0.115 (0.092) | -2.974 (0.934)*** | -0.717 (0.411)* |
| <i>NEVER COLONY</i> | | -2.923 (2.018) | -0.808 (1.268) | -0.026 (0.048) | -0.559 (0.634) | -0.156 (0.334) |
| <i>PROTESTANT</i> | | -0.248 (0.052)*** | -0.174 (0.038)*** | -0.002 (0.003) | -0.088 (0.025)*** | -0.047 (0.011)*** |
| <i>ETHLINGFRAC</i> | | -4.689 (3.722) | 0.422 (4.545) | 0.050 (0.217) | 1.140 (2.462) | -0.106 (1.069) |
| <i>FUEL/OM</i> | | 0.081 (0.044)* | 0.039 (0.034) | 0.001 (0.001) | 0.021 (0.018) | 0.009 (0.009) |
| <i>LGDPPC</i> | | 0.738 (0.545) | 0.661 (0.771) | 0.027 (0.031) | 0.439 (0.414) | 0.264 (0.189) |
| <i>C</i> | -0.469 (1.293) | -2.476 (4.009) | -2.852 (5.982) | 0.536 (0.233)** | -2.665 (3.208) | -1.524 (1.443) |
| Observations | 11578 | 11578 | 10252 | 10252 | 10252 | 10252 |
| No. of countries | 21 | 21 | 19 | 19 | 19 | 19 |
| R-squared | 0.08 | 0.27 | 0.26 | 0.04 | 0.26 | 0.20 |

Notes: ^a Dummy: 1 if *LIKELY* = 1, 0 o/w. ^b Contains municipal officers, police officers, customs officers, tax-revenue officials, inspectors, and court officials. ^c Contains parliament, ministers and municipal councilors.

Countries in the sample are Albania, Azerbaijan, Belarus, Bulgaria, Cambodia, Colombia, Croatia, Czech Republic, Georgia, Hungary, Lithuania, Mongolia, Mozambique, Panama, Philippines, Poland, Romania, Russia, South Korea, Uganda, Ukraine in (1-2), Albania and Philippines excluded in (3-6).

Observations clustered by country, robust standard errors reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 10 Determinants of individual corruption perceptions by country (2000)

| | Dependent variable: <i>LIKELY</i> | | | |
|---------------------|-----------------------------------|----------------------|----------------------|----------------------|
| | Bulgaria | Hungary | Mozambique | Uganda |
| <i>VICTIM</i> | 1.218 (0.325)*** | 1.121 (0.635)* | 0.794 (0.431)* | -0.052 (0.100) |
| <i>MALE</i> | 0.372 (0.317) | 0.164 (0.367) | -0.012 (0.449) | 0.147 (0.097) |
| <i>INCOME LEVEL</i> | -1.211 (0.340)*** | 0.245 (0.446) | 0.897 (0.538)* | -0.088 (0.102) |
| <i>EDUC. LEVEL</i> | -0.426 (0.262) | -0.144 (0.218) | 1.527 (0.303)*** | 0.136 (0.058)** |
| <i>AGE: 25-54</i> | -0.255 (0.525) | -1.471 (0.624)** | 4.079 (0.851)*** | 0.383 (0.109)*** |
| <i>AGE: 55-</i> | -1.098 (0.606)* | -1.756 (0.657)*** | 5.320 (0.645)*** | 0.210 (0.288) |
| <i>MARRIED</i> | -0.014 (0.387) | -0.628 (0.393) | -0.159 (0.586) | -0.032 (0.105) |
| <i>WORKING</i> | 0.537 (0.380) | 0.950 (0.470)** | -0.109 (0.491) | -0.275 (0.102)*** |
| <i>C</i> | 11.699 (0.860)*** | 6.250 (0.790)*** | -2.830 (0.776)*** | 1.805 (0.171)*** |
| Observations | 538 | 680 | 304 | 947 |
| R-squared | 0.07 | 0.06 | 0.18 | 0.02 |

Notes. Standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%