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**Seeing Is Not Always Believing:
Measuring Corruption Perceptions and Experiences**

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Measuring Corruption as Perceptions vs. Experiences**

ABSTRACT

While third-wave of democracy has produced an extraordinary increase in the number of new democracies, widespread corruption is a major challenge to the quality of many new democracies and an obstacle to their consolidation. Understanding corruption has been hampered, however, by problems of measurement since corruption is illegal and difficult to observe systematically. The best known measures rely on aggregate perceptions of corruption, but questions persist about their validity. Analysis of the Global Corruption Barometer, which provides individual level data on corruption perceptions and experiences across 60 countries, consistently shows that there are large disparities between corruption perceptions and experiences. Moreover, measurement models of their relationship demonstrate that perceptions of corruption in specific institutions are only weakly influenced by experiences with those institutions and are much more influenced by perceived corruption in other institutions in a circular, echo chamber. Corruption experiences also are shaped by expectations but to a much lesser extent. Corruption perception and experience measures both respond appropriately to theory based models of corruption incorporating socio-economic characteristics, individual opportunities and motivations for corruption, and national context, but corruption experience measures perform somewhat better overall.

I am from Missouri, and you have to show me (U.S. Congressman Willard Vandiver, 1899)

Selective perception is the process by which we see what we expect to see in the world; experiences are processed and interpreted in ways that tend to support a priori beliefs (Sherif & Cantril, 1945).

The third wave of democracy has produced an extraordinary expansion in the number of electoral democracies, from approximately 40 countries in 1970 to approximately 125 in 2008 according to Freedom House estimates (www.freedomhouse.org). As their quantity has increased, however, concerns have been raised the quality of many new democracies (Zakaria, 1997; Diamond, 1999). Competitive elections may be necessary for democracy (Schumpeter, 1950; Dahl 1989; Przeworski et al., 2000) but scholars increasingly argue they are not sufficient; a richer, deeper conception is required incorporating the rule of law, constitutional limits on political power, and guarantees of civil and political rights among other qualities (see, e.g., Rose and Shin, 2001; O'Donnell et al., 2004; Diamond and Morlino, 2005). Corruption has received particular attention in these regard because, as Warren (2004) argues, it prevents the full consolidation of what otherwise are 'incomplete' democracies. Hellman (1998) offers a similar assessment arguing that once corrupt relationships are established between public officials allocating resources and private-sector groups seeking benefits, a 'low level equilibrium trap' is created to the mutual benefit of both groups, but as a collective cost to society.

While there is agreement on the problematic nature of corruption, a proper understanding of corruption's causes and consequences has been hindered by fundamental problems of measurement. While observable in principle, the illicit nature of corruption makes the collection of systematic and reliable measurement problematic. As a result, much research over the past

decade has on perceptions of corruption as a proxy for more direct observation. The results frequently have been impressive but concerns persist about the adequacy of perceptions as measures of corruption.

In response, more recent measurement efforts have focused on reported experiences of corruption. Patterned after crime victimization studies which ask citizens whether they have recently been victims of crime, corruption experience studies ask individuals whether they recently have paid or been solicited for bribes by public authorities (Seligson, 2006). While avoiding many of the problems of perception measures, this approach raises other concerns, principally whether individuals will truthfully report what is, by definition, illegal activity. Moreover, cross-national comparisons of aggregate corruption perception and experience measures find only modest correlations between the two; they also find that the two measures produce very different results regarding the causes and consequences of corruption (Treisman, 2007; Donchev and Ujhelyi, 2007).

This paper explores the relationship between corruption perceptions and experiences in greater depth by estimating a series of measurement models systematically linking individual-level perceptions of different types of corruption with their reported experiences. It uses Transparency International's 2006 Global Corruption Barometer (GCB) which provides survey-based data on corruption perceptions and experiences from a diverse groups of 60 countries both democratic and not. Unlike Transparency International's better know and more widely used Corruption Perception Index (CPI) which provides country-level aggregate data, the GCB provides individual-level data by country making it possible to avoid problems of ecological inference while still taking national context and culture into account.

Our analyses confirm that there are large discrepancies in the number of individuals who perceive that corruption in their country and those who report having experienced corruption personally. Moreover, corruption perceptions and experiences are even more weakly correlated at the individual level than at the aggregate level. Measurement models further indicated that the experience of corruption is less likely to influence perceptions of corruption than perceptions are to bias the recall of corruption experiences. Finally, multilevel analyses show that corruption perceptions are heavily influenced by media reports whereas corruption experiences are influenced much more by individual opportunities and motivations to engage in corrupt practices. While both perception- and experience-based measures of corruption can be useful indicators, our analyses indicate that the experience of corruption is the better indicator for understanding corruption and addressing the problems it raises for deepening democracy.

Measuring Corruption

Since corruption is illegal by definition, it is difficult to observe directly; most participants in corrupt transactions have strong incentives to conceal their behavior to avoid sanctions¹. Historically, those seeking to understand corruption have relied on case studies including journalistic accounts of specific scandals, ethnographic studies of particular villages or industries, or autobiographical confessions (Banfield, 1958; Oldenburg, 1987; Heidenheimer et al., 1989). Although helpful for understanding the nature and circumstances surrounding corruption at

¹ Defining corruption is nearly as difficult as measuring it; many and varied definitions have been proposed (Johnson, 2005). Nevertheless, most scholars and practitioners have converged on Transparency International's (www.transparency.org/news_room/faq/corruption_faq) definition of corruption as, "the misuse of entrusted power for private gain [in which] . . . a bribe is paid to receive preferential treatment for something that the bribe receiver is required to do by law [or] . . . a bribe is paid to obtain services the bribe receiver is prohibited from providing."

specific times and places, case studies are less useful for generalizing about the nature and extent of corruption across countries and time or for testing theories of corruption's causes and consequences.

Several efforts have been made to develop more systematic and comparative measures of corruption. Knack and Keefer (1995) and Mauro (1995) among others use subjective estimates of national corruption generated by commercial political risk-assessment firms (see also, Svensson, 2005). Of these, the International Country Risk Guide produced by the PRS Group (www.prsgroup.com) is among the best known. Although broad in scope, such measures based on subjective assessments by anonymous country experts on the basis of available public information and are of uncertain reliability or validity ([www.prsgroup.com/ICRG Methodology.aspx](http://www.prsgroup.com/ICRG_Methodology.aspx))

A second approach relies on official statistics recording arrests and convictions for corruption or on 'counts' of newspaper mentions of corruption (Liu, 1983; Pharr, 2000). These data, however, reveal as much about the priorities, effectiveness, and honesty of the police, judges and newspaper reporters as they do about the level of corruption in society. In highly corrupt systems police and judges may 'look the other way,' recording little if any corruption, whereas in countries with stronger adherence to the rule of law, police and judges may produce many more arrests and convictions for even minor offenses, recording much higher levels of corruption.

Within individual countries, more labor-intensive methods have proven effective. For example, Golden and Picci (2005) develop an innovative measure of elite corruption across Italy's regions based on the difference between the physical quantities of public infrastructure in a region and the cumulative price that government paid for public capital stocks. Unfortunately, as

Golden and Picci acknowledge (p. 64), applying the measure cross-nationally would require “painstaking” efforts. Even then, the historical data necessary to compile the measure would almost certainly be lacking for a large number of countries including many of the least economically developed where corruption appears highest. Moreover, while effective at measuring elite corruption, such measures do not reflect the extent of street-level corruption most likely to be experienced by ordinary citizens.

Because of its concern with global corruption, Transparency International (<http://www.transparency.org/>) has invested heavily since 1993 in creating and refining a composite Corruption Perception Index (CPI) measuring overall levels of national corruption across a broad cross-section of regimes. The CPI ratings were based initially on an amalgam of elite surveys of business executives and country experts; it was later expanded to incorporate public perceptions of corruption based domestic public opinion surveys (for details on the methodology see Lamsdorff, 2007). By 2007 the CPI ranked 179 countries on a ten-point scale ranging from Somalia and Myanmar, the most corrupt with CPI scores of 1.4, to Denmark, Finland and New Zealand, the least corrupt with CPI scores of 9.4.

The World Bank also began publishing an aggregate Control of Corruption Index (CCI) as part of its World Wide Governance program (www.worldbank.org/wbi/governance/data) in 1996 using similar sources to Transparency International albeit slightly different methods (for a discussion of its methods see Kaufmann et al., 2008.). Both indices use sophisticated statistical algorithms in combining elite and mass perceptions of corruption, although both give much greater weight to elite perceptions. Both also report high levels of inter-indicator reliability among their component indices. Despite their somewhat different methodologies, the CPI and CCI

produce almost identical national rankings of corruption perceptions cross-nationally; for years in which both indices are both available; the simple correlation consistently exceeds .95.

The availability of aggregate data on perceptions of corruption has stimulated considerable research over the past decade (Treisman, 2007; Lambsdorff, 2005 and Svensson 2005 provide excellent summaries). The consensus with respect to the causes of perceived corruption is that it varies inversely with economic development and the level and duration of democracy. It has been found to be lower in countries with greater openness to international trade and a lesser dependence on energy exports. Corruption perceptions also are lower in federal political systems and those with higher percentages of women in government (see inter alia, Dollar et al; 2001; Montinola and Jackman, 2002; Sandoltz and Koetzle, 2000; Sung, 2003; and Swamy et al., 2001; but also compare, You and Khagram, 2005). Among the consequences of perceived corruption, the aggregate data provide strong evidence of negative effects on economic investment and growth, political stability, and public support for the political and economic regimes (Bardhan, 1997; Abed and Gupta, 2002; Egger and Winner, 2006; Anderson and Tverdova, 2003; Mishler and Rose, 2002; and Seligson, 2002; but also Nye, 1967).

While the PCI and CCI represent a major step forward in measuring corruption, there are persistent concerns about their reliability and validity² (Knack, 2006 documents these in detail). First, the CPI and CCI both rely primarily on surveys of elites in business, NGOs, INGOs, and governmental organizations, whose knowledge of the countries they evaluate varies widely, and who may or may not have any personal experience with corruption in the countries they evaluate.

². Both Transparency International and the World Bank are well aware of these limitations. They have been scrupulous about documenting them and persistent in seeking to improve their measures.

While many expert reports are surely based on experience, many others likely depend heavily on second-hand reports or hearsay. Moreover, elite knowledge is likely to be narrow, limited to a particular government ministry or economic sector and difficult to generalize since elites do not constitute a national probability sample. Even where elites have reliable, first hand knowledge about high-level government corruption, they are not likely to have direct information about mass-level corruption such as bribes paid to police, school officials or doctors.

Recent versions of the CPI and CCI incorporate citizen perceptions of corruption, but elite perceptions still dominate. Moreover, mass surveys typically ask citizens their perceptions about elite corruption with which they have little direct experience.³ A few surveys do ask citizens about street-level corruption, but direct knowledge of this also varies according to citizens' positions within society. For example, only citizens with school-age children are vulnerable to dealing with corrupt schools while those who own cars (a percentage that varies dramatically cross-nationally) are the most likely to encounter corrupt police. Without controlling for the contacts citizens have with different public officials, the reliability of public reports of street level corruption is problematic.

Both elite and mass perceptions of corruption also are susceptible to the endogeneity and 'echo chamber' problems. The validity of corruption perception measures depends on the assumption that perceptions are shaped mostly by personal experience, whether a business owner bribing a government minister for an import license or a citizen bribing a policeman to escape a

³ A standard question asks, "How widespread do you think bribe taking and corruption are in this country? 1. Almost no public officials are engaged in it; 2. A few public officials are engaged in it; 3. Most public officials are engaged in it; 4. Almost all public officials are engaged in it?"

traffic fine. If this is not the case, however, and corruption perceptions are based primarily on other factors – for example cultural stereotypes, media reports, or political propaganda – then the reliability and validity of corruption perceptions will be undermined. Ironically, a government’s implementation of a high profile anti-corruption campaign may simultaneously reduce its level of actual corruption while increasing public awareness and perceptions of corruption. A similar problem would exist either if individual reports (memories) of the experiences”of corruption are shaped by perceptions through a process of selective memory or if the relationship between perceptions and experiences is spurious in that both result from the same set of influences but otherwise are not causally connected.

The ‘echo chamber’ problem is related and arises when perceptions of national corruption in a country are shaped by historical stereotypes or media reports and then recorded by CPI or CCI as ‘fact.’. These data then feedback, reinforcing elite and mass perceptions of corruption and creating a vicious cycle creating the appearance of reliability (i.e., high inter-indicator correlations) without ensuring validity.

In response to such concerns, Transparency International has supplemented the CPI with the Global Corruption Barometer, a series of individual-level, national probability surveys recording both individual perceptions of and reported experiences with corruption. After being questioned about their perceptions of the corruption of a variety of national and street level institutions, respondents are then asked whether in the past year they have any contact with a variety of street-level service providers including the educational and legal systems, medical providers, police, registry and permit services, utilities services and tax revenue officials. Those who report one or more contacts with a provider are then asked whether a bribe was paid to that

provider in the past year.

Personal experience measures of corruption face potential problems as well (see Donchev and Ujhelyi, 2007). Memories are notoriously imperfect and can be selectively influenced by personal circumstances and national context (Nisbet and Wilson, 1977). Individuals may forget instances of petty corruption over the course of a year, especially in contexts where corruption is prevalent. Alternatively, they may report instances of corruption going beyond the 12-month window in contexts where corruption is rare. Moreover, while crime victims are innocent and elicit sympathy, corruption is illegal and those who engage in it may not want to admit paying bribes to survey researchers, especially in countries with authoritarian regimes or where public acceptance of corruption is low.

These criticisms challenge the assumption that individual perceptions are shaped primarily by experience and suggest, instead, that the 'experience' of corruption may reflect both normative and empirical expectations or perceptions. Moreover, contrary to the impressive evidence that aggregate perceptions of corruption are related to economic development, international trade, oil exports, business regulation, inflation, liberal democracy, federalism, and the percentage of women in government, most of these factors, other than economic development, appear unrelated to aggregate measures of the experience of corruption. The incompatibility of corruption perception with the experience of corruption at the aggregate level is troubling from a measurement theory perspective. If perceptions and experience are valid measures of the same underlying phenomenon, they should be highly correlated and respond to many of the same causal influences.

Corruption Perceptions and Experience

To better understand the individual-level relationship between corruption perceptions and experience we use Transparency International's 2006 Global Corruption Barometer which surveys the corruption experiences and perceptions of individuals in 60 countries world wide (See Appendix A for a list of the countries.⁴ The GCB questionnaire began by explaining that corruption consists of "the abuse of entrusted power- by a public official or a business person for example - for private . . . material gain or other benefits." Respondents were then asked, "To what extent do you perceive the following . . . to be affected by corruption." Replies were coded on a 1-5 scale with 1 meaning not at all corrupt and 5 meaning extremely corrupt). Two sets of institutions were presented. The first consisted of seven civic and political institutions (including parliament political parties, the military, NGOs, business, and religious bodies) which most citizens should know even if they do not have direct contact with all of them. A second set consisted of 'street-level' institutions (education system, legal system, medical services, police, registry and permit service, utilities, tax revenue) which more individuals are likely to have personal contact and, thus, the opportunity to be exposed to corruption.

Figure 1 shows that large percentages of citizens perceive most of these institutions as substantially corrupt. For most of the institutions a third or more of respondents cross-nationally

⁴ The sampling frames used in the 60 countries vary according to the survey methods prevailing in the country. As indicated in Appendix A, most countries use stratified random samples with 1000 or more respondents to achieve national probability samples. In a few countries, however, only urban populations were sampled. We have included all countries in our analysis regardless of sample type in order to maximize the number of countries included and thus to maximize the degrees of freedom available in the multi-level analyses. However, we have re-run all analyses using only countries with stratified national samples and found only small differences, none of which affect the substantive analyses. Because original sample sizes vary significantly by country, all samples have been weighted to an equal N of 1000. The 2006 GCB included a 61st country, China. However, the Chinese survey did not ask about corruption experiences and, therefore, cannot be used in this study.

place the institution in one of the two most corrupt categories (4 or 5). The mean level of perceived corruption ranges from a low of 2.6 on the five-point scale for religious bodies to high of 3.8 for political parties.

Consistent with previous research (Treisman, 2007), political corruption is generally perceived by individuals to be worse than corruption in street-level institutions although civic institutions generally are perceived as least corrupt. Corruption perceptions of all types are lowest in countries which Freedom house categories as free⁵ and highest in those categorized as unfree. Corruption in all institutional also is perceived as highest in the least developed least economically developed countries (not shown). These differences, however, are generally small, and absolute levels of perceived corruption are high for all types of institutions virtually everywhere. Most citizens in most countries perceive that most institution substantially abuse the public's trust for private gain.

The Global Corruption Barometer followed the perception questions with a series of questions about individual contacts with and bribes paid to the same seven street-level institutions 'during the twelve month period prior to the survey'. The one year limit was intended to maximize the reliability of memories which fade quickly and are increasingly subject to selective memory effects. Because paying a bribe requires some contact with an institution, the GCB first asked whether "you or anyone living in your household had a contact with each of the [seven listed] institutions or organizations." For each reported contact, the respondent was asked whether

⁵ While Freedom House expressly measures the level of civil and political freedom in a country and not the level of democracy, the freedom scales correlates very highly with most standard measures of democracy and are widely used as a proxy for level of democracy. Thus we will use the terms democracy and freedom interchangeably when referring to the Freedom House categories.

anyone in the household had “paid a bribe in any form.”

Figure 2 summarizes the percentages of respondents reporting contacts with and bribes paid to each of the seven institutions and paints a dramatically different picture of corruption than the proportion perceiving these institutions as corrupt. Whereas most citizens believe virtually all public institutions are substantially corrupt, relatively few citizens report any contact with most of those institutions. Moreover, among those who have had some contact with an institution, only small percentages report paying a bribe. Citizens have the most contact with medical providers; 60% report some contact with the medical system during the previous year. A small majority also had contact with public utilities during the previous year, while 40% report contacts with the educational system. At the other end of the scale, just 16% reported any contact with the judicial system, and less than one in four had contact with the police. This means, depending on the institution, that between 40 to 85% of citizens could not have experienced a corrupt relationship with public officials because they did not have any contact with them. For this substantial segment of the population, perceptions of corruption are likely based on second-hand accounts or conventional wisdom.

Even among those who were in contact with these institutions, corrupt experiences are rare; an average of only 12% report paying a bribe to these institutions during the preceding year. This varies widely by institution, however, with police appearing to be most corrupt with 20% of contacts resulting in bribes and tax collectors appearing to be least corrupt with only 4% of contacts resulting in bribes. Given that citizens are most likely to interact with the medical system and least likely to have contacts with the legal system, it is not surprising that they report the highest absolute number of bribes for medical services. Still, 6% of all citizens report paying bribes for

medical service during the preceding year. This compares to only 4% of all respondents who said they had paid bribes to the police and 3% or less who said they paid bribes to any of the other institutions or organizations.

Importantly, respondents do not appear reluctant to talk about their experiences paying bribes. Of those reporting contacts with street-level institutions only 3% could not remember whether they paid a bribe or refused to answer the question (the percentages of ‘don’t knows’ and refusals are about equal). These figures somewhat across regimes. Refusals are lowest in the US and European Union where they amount to less than 1% of respondents and are highest in Africa where 8% either cannot remember or refuse to answer. Among regimes that Freedom House categorizes as ‘Free’ the average percentage not responding to the seven bribery questions is 1.5%. This rises to 4% among regimes rated as ‘Partly Free’ but is significantly higher (9%) among regimes considered ‘Unfree.’ Still the percentage who either can’t or won’t answer questions about bribery is very low in absolute terms and is on a par with the missing data rate recorded for other questions about sensitive but legal subjects. By way of comparison about 3% of citizens did not answer a question about their religion and 16% did not report their family income. Clearly there is nothing about the response rates to the corruption experience questions to raise concerns about citizen reluctance to truthfully report their experiences paying bribes. Even if all of those who did not answer the question were assumed to have paid a bribe, the percentage experiencing corruption would not increase appreciably.

Figure 3 highlights the discrepancy between corruption experiences and perceptions, comparing the percentages of individuals who perceive each of the institutions as corrupt (scoring them 4 or 5 on the corruption scale) against the percentages of all citizens (not contacts) who

report paying bribes⁶. It shows that perception of corruption exceeds the experience of paying bribes by as much as 40 times in the case of taxes and 25 times for the legal system. The discrepancy between perceptions and experiences falls below 10:1 only for medical services, the service with which individuals have the most direct experience.

Figure 4 compares the mean difference between the mean perception and experience of corruption across countries in different regions and with different regime types. Overall, the difference is highest in the former communist regimes of Central Europe and the Soviet Union; it is lowest among older European Union nations and in North America. The discrepancy also is lower in regimes as Free by Freedom House and higher in those that categorized as only Partially Free or Not Free. Still, even in countries like Denmark and Sweden where perceived corruption is the lowest, perceptions of severe corruption outstrip the experience of paying bribes by 3:1 or more.

Further evidence of the discrepancy between perceptions and experiences of corruption is provided by their weak individual-level correlations. The bivariate (Tau) relationship ranges from a high of .16 for the perception and experience of corruption in medical services and the police to a low of .06 for the tax system. The average correlation across all seven institutions is .11. When respondents without any contact with an institution are eliminated, the correlations rise considerably averaging .18 overall and ranging from a low of .10 for utilities to high of .31 for

⁶ Since all citizens are asked their perceptions of corruption, it is more appropriate, we believe, to compare perceptions of corruption with the bribery experiences of all citizens and not just those who had contacts with an institution. However, both sets of data are reported.

police.⁷ This confirms that those with more direct experience with an institution are more likely to agree on the extent of corruption, but even among those having contact with an institution in the past year, there is considerable disagreement about the extent of corruption.

A Measurement Model of Corruption

Descriptive statistics highlight the discrepancy between corruption perceptions and experience, but say little about their causal interconnection. Disentangling these relationship requires the specification and estimation of a measurement model, such as illustrated in Figure 5. As developed previously, existing theory and research support competing hypotheses that corruption experiences variously shape and/or are shaped by corruption perceptions. They also hold that perceptions of corruption in one set of institutions influence perceptions of corruption in other institutions, again in reciprocal ways. Thus, at the center of the measurement model are a series of reciprocal links among the four latent variables measuring perceptions of corruption in the (5) civic, (2) political and (7) street-level institutions and the experience of paying bribes to the street-level institutions.

In addition to the reciprocal relationships at its core, the model hypothesizes that both corruption perceptions and experience are functions partly of the contacts that individuals have with the various institutions and partly also of individual social and economic characteristics including age, education, income, sex, and religion. Logically, the more that people use a public service, the more likely they are to be asked for a bribe or to witness others paying them. The frequency of contact with institutions likely with the nature of the service as well as with

⁷ The magnitudes of both sets of correlations are virtually identical whether perceptions are measured on the full 5-point scale or collapsed into a binary variable distinguishing perceptions of extreme corruption (4 and 5) from low and medium perceptions (1,2,3).

individuals' life circumstances. In general, most people are likely to have more regular face-to-face contacts with doctors and nurses than with the police, the courts or tax officials. Similarly, people with school age children are more likely to have contacts with education officials than older citizens whose children are grown while older citizens have greater needs for medical services and more frequent contacts with the medical system as a result.

The hypothesized impact of individual income on corruption experiences and perceptions is more complicated. On one hand, corruption requires that individuals have enough money to pay a bribe. Public officials could even practice differential "pricing", delivering services with care to those with the money to pay bribes but delivering services cursorily without payment to others unable to make side payments. Insofar as this is the case, then high income households will be more likely to pay a bribe. On the other hand, theories of inequality support a victimization model according to which the poor, uneducated and elderly may be forced to pay bribes for public services because they lack the social skills and networks to command services without bribery.

Bribery and corruption depend not only on the opportunity structure in society (i.e., contacts) but also on the willingness of individuals to pursue the opportunities that are available. In this sense corruption has a normative or moral dimension that varies across both individuals and societies. Although Gambetta (2002: 33) describes corrupt relations between principals and agents as 'the degradation of agents' ethical sense, their lack of moral integrity or even their depravity,' Huntington (1968: 64) argues that corruption can have a positive function, 'providing immediate, specific and concrete benefits' by allowing individuals to circumvent the pathologies of public administration by paying a bribe. Although the GCB does not ask about individual assessments of the ethical propriety of paying bribes, aggregate, cross-national studies of

corruption perceptions frequently use the percentage of Protestants in a country as a normative proxy (see Tresiman 2007; Donchev and Ujhelyi, 2007). This reflects the view, articulated by Lipset and Lenz (2000: 121) that “the protestant religious ethos is more conducive to norm-adhering behavior.” Although this view is controversial, a number of studies confirm that perceptions of corruption vary inversely with the percentage of Protestants in a country generally and are lower in countries with a Protestant majority. Thus, we use membership in a Protestant religion as a crude individual level proxy for the normative aversion to corruption.

The model in Figure 5 was estimated using full information maximum likelihood procedures in an iterative process testing alternative specifications including all possible sets of linkages among the four corruption perception and experience variables. The best fitting model is shown in Figure 6.

The first point to note in the estimates is the close interconnection among the three latent perception of corruption variables. Confirmatory factor analysis shows that a three factor solution with separate latent measures of the perceived corruption of street-level, civic and political institutions provides the best fit with the data. For street-level perceptions the factor loadings range from .62 to .76; for perceptions of civic corruption the range is between .56 and .68; while perceptions of the corruption of parties and parliament both have loadings of .83 on the political corruption dimension. Indeed, an alternative model in which all fourteen of the perception measures form a single, composite perception of corruption variable fits the data almost equally well (not shown). Taken together this suggests that individuals are only weakly able to discriminate among the corruption levels of different institutions.

The strong loadings of all seven of the street-level items on a single latent variable

reinforces this point and means that individuals world wide tend to view the corruption of these seven institutions very similarly. This does not mean that all citizens perceive all institutions as equally corrupt nor that the level of perceived corruption is the same across individuals, sub-groups within countries or across countries. This clearly is not the case as shown by the descriptive data, previously reported. What the pattern does indicate is that most individuals tend to perceive the relative corruption of the seven institutions similarly; the police are generally perceived as most corrupt while the education and medical services are generally perceived as least corrupt. This also means that their perceptions of the level of corruption in different institutions are likely to be driven by similar influences in similar ways.

Further evidence of the close interconnections among corruption perceptions is provided by the strong linkages connecting the three latent perception of corruption variables in the model; the standardized coefficients range from a minimum of .40 for the impact of perceived political corruption on perceived street-level corruption to a high of .70 for the link between political and civic corruption perceptions. Caution needs to be exercised, however, in interpreting the causal direction among the three perception variables. The observation that causality runs from political and civic perceptions to street-level perceptions is at least partly a reflection of the ordering of the questions in the GCB survey; the questions civic and political corruption perceptions are asked immediately before the perception of street-level corruption questions. Thus answers to the first set of questions likely structure responses to the second set. The strength of the linkages matters more than their direction.

The link between political and civic perceptions is different in that the order of the seven civic and political corruption perception questions is randomized in the questionnaire, thus

reducing question order effects. When a simultaneous (i.e., reciprocal) linkage is specified between the civic and political perception variables, the political → civic linkage emerges as strong and positive (.70) while the civic → political linkage is virtually nil (.01), strong evidence the perceptions of political corruption dominate and structure perception of civic corruption and not vice versa.

The experience of street-level bribery questions also form a single latent variable, but the loading of the seven items, ranging from .42 to .49, while significant, are much weaker than for any of the three latent perception variables. On one hand, the fact that all of the bribery measure load on a single factor means that individuals everywhere tend to experience bribery across institutions very similarly; paying bribes for medical services is the most common experience in most settings while bribing tax collectors is usually least common. On the other hand, the fact that the loadings are weaker than for the corruption perception measures means that respondents are somewhat more discriminating when reporting bribery experiences. Whereas almost everyone perceives corruption in different institutions in much the same way, individuals experience corruption in different institutions, if at all, in more distinctive ways; they are less likely to project a corrupt experience with one institution onto another institution.

A second important point to note in the measurement model is the very weak set of connections between the experience of corruption and corruption perceptions. Consistent with the weak individual-level correlations previously reported, bribes paid to street-level officials have only a small effects on perceptions of street-level corruption when other influences are controlled – and those small effects are negative. Moreover, bribes paid for street-level services have no spill-over effects on perceptions of political or civic corruption.

Conversely, perceptions of corruption are much more likely to shape memories/reports of past experiences of corruption. Those who perceive street-level corruption as high are much more likely to remember paying a bribe during the past year as a result. Predictably, perceptions of political corruption have little effect on the experience of street-level corruption, although perceptions of civic corruption appear to have strong negative effects. The latter, we suspect, is a reflection of the substantial multicollinearity that exists between corruption experience and the three highly correlated perception variables; when either political or street-level perceptions are dropped from the model the linkage between perceptions of civic corruption and the experience of street-level corruption disappears. Still, the overall impact of corruption perceptions on individual reports of the experience of corruption is strong, which is consistent with selective memory effects.

Given the way the GCB asks about street level bribery there is a necessary relationship between reported contacts with street-level organizations and paying bribes to these institutions.⁸ In practice, however, the relationship is relatively weak because most contacts do not result in bribes. Importantly, contacts with street-level organizations have no effect on perceptions of the corruption of political or civic institutions. Neither do these relationships operate in reverse; there is no evidence that individuals are any more or less likely to contact organizations they perceive as corrupt.

Individuals social and economic characteristics have modest and largely predictable effects on both the perception and experience of corruption. As expected, more educated individuals and

⁸ Of course, the question about contacts also screens out respondents who do not have opportunities to pay bribes and provides a valuable check on corruption perceptions as well.

the relatively wealthy are significantly more likely to have contacts with street-level organizations and officials and to engage in slightly more bribery as a result. Protestants have significantly more contacts and, thus contrary to theory, engage in slightly more bribery as a result, while the elderly have significantly fewer contacts and pay fewer bribes. After controlling for the frequency of contacts, however, social characteristics have little direct influence on the propensity to pay bribes other than for small negative effects linked to women and the elderly.

In contrast, social characteristics have relatively stronger, more direct effects on corruption perceptions of all kinds. Although Protestants are slightly more likely to pay street-level bribes, they are much less likely to perceive political institutions as corrupt, and they are moderately less likely to perceive street-level institutions as corrupt. Higher education, income and age all reduce perceptions of street-corruption and all but education reduce perceptions of political corruption. Although none of the social characteristics are linked directly to perceptions of civic corruption, most of them have moderate, predictable indirect influences via the intervening effects of political and street-level perceptions. This, again, is indicative of the extent to which perceptions of political and civic corruption are measuring the same thing and are little discernable empirically from perceptions of street-level corruption as well.

Corruption in Context

The 60 countries included in the Global Corruption Barometer are highly diverse, politically, culturally, and economically. This raises important questions about the generality of the measurement model results and the extent to which individual-level patterns of corruption are influenced by national context. To evaluate this, we used Hierarchical Linear Modeling procedures (HLM) to estimate a series of multilevel models distinguishing the effects of both

individual and country level influences on individual perceptions and experience of corruption.\

Two separate multilevel models are constructed: one explaining differences in the experience of street-level bribery, and the second explaining perceptions of street-level corruption.⁹ At the individual level, the experience of street-level bribery is conceived, similar to the measurement model, as a function of individuals' contacts with street-level institutions in addition to age, sex, education, relative income, and religion (protestant or not). The model also includes a measure of the perception of street-level corruption to account for selective memories of corruption experiences.

The perception of corruption model is similar and includes a measure of bribes paid to street-level in the past year in addition a measure of institutional contacts and the five social position variables. To test the “echo chamber” hypothesis that perceptions of one type of corruption shape perceptions of other types as well, the street-level corruption model includes two measures of the perceived corruption of civic and political institutions. Of course, a variety of other individual-level political attitudes and values conceivably could influence corruption perceptions and experience as well, but the GCB includes very few individual-level variables beyond those measuring corruption and, so, does not permit assessments of a broader range of influences.

The number of aggregate-level contextual variables that can be considered also is severely limited by limited number of aggregate-level degrees of freedom in the model. Thus we chose to

⁹ Separate multilevel models also were constructed and estimated for perceptions of political and civic corruption. However, given the strong relationships among the three perception variable, the HLM results for the three perception models were very similar. The additional analyses adds substantially to the complexity of Table 2 and the length of the paper without providing addition substantive insights and so are omitted here.

focus on four principal contextual variables in addition to several control variables for the different geographic regions. Consistent with previous research on the relationship of corruption to economic development, the model measures economic context cross-nationally as the natural log of the Gross Domestic Product per capita PPP. Political context is measured using a combined measure of the Freedom House indices of Civil and Political Liberties. Cultural context is measured as the percentage of Protestants in a country – a crude measure but one used widely in the literature. Hypothesized media effects on corruption perception are tested using a measure of national newspaper consumption per capita. Control variables were included for Africa, Asia, the former Communist bloc countries of Central Europe and the Soviet Union, South America, and Western Europe. North America serves as the excluded geographic region.

Because of the high correlation among several of the country-level measures (for example, GDP and democracy), models were estimated in stages with aggregate-level variables added one at a time until best fitting models were achieved. The final models are reported in Table 2; estimates are restricted maximum likelihood coefficients with robust standard errors. Appendix B provides definitions, means, and standard deviations for all variables.

The pseudo R^2 statistics at the bottom of the table measure the reduction in individual- and country-level variance in the final models as compared to baseline models including only level I and II intercepts. Both models perform well accounting for 40.3 and 51.5% of the individual-level variance in corruption experiences and perceptions, respectively, and 78.9 and 85.1% of the country-level variation.¹⁰

¹⁰ The disparity in ‘fit’ between the individual- and aggregate-level models is predictable; survey data are inherently much noisier at the individual-level as compared to the same data when aggregated. In absolute terms, however, both models perform well.

The country-level HLM results are displayed in Table 2 as interactions with the individual-level intercept. They indicate the extent to which mean individual-level perceptions or experiences of corruption vary across countries in relation to differences in national wealth, culture, media context. For example, the individual-level intercept for perceived corruption is 3.147 which means that the ‘average’ citizen across all 60 countries perceives street-level to be somewhat higher than 3.0 on the 4-point corruption scale. In addition, the -1.04 coefficient for percent protestant (x 100) means that for every one percent increase in the percent protestant in a country, perceptions of corruption fall by about 1/100th of a point. Thus perceptions of corruption would be about .52 points lower on the 4-point corruption scale in a country with 50% Protestants as compared to a country without a measurable protestant population.

Overall, the country-level results support existing aggregate-level research on corruption perceptions. Perceptions of street-level corruption vary inversely with levels of national economic development (GDPPP/cap), the percentage of Protestants in a country, and per capita newspaper consumption. Citizens of wealthier countries, countries with larger Protestant populations, and those with higher levels of newspaper readership are significantly less likely to perceive street-level institutions as corrupt. Aggregate perceptions of corruption also are lower in Asia and Western Europe, even after controlling for economic development, religion, and media consumption. Corruption perceptions are significantly lower in more democratic regimes as well, but given the strong correlation between democracy and development, democracy’s effects on corruption perceptions disappear when GDP is controlled. This occurs consistently in all of the models which is why the Freedom House variable is not shown in the table.

A very different pattern is evident with regard to aggregate experiences of corruption,

however. Of the four contextual variables, only economic development has a significant effect on the experience of corruption and, contrary to theory, that effect is positive. The experience of corruption also is significantly lower in Africa and Asia as compared to other regions even after controlling for levels of economic development. Examining the perception and experience of corruption together, individuals in more economically developed societies are significantly more likely to report paying bribes, but are significantly less likely to perceive corruption as being a problem in their country.

The HLM results also reinforces the basic structure of the individual-level measurement model previously discussed. The five individual-level social position variables have somewhat smaller effects than in the measurement model because their effects are mediated through the intervening influence of street-level contacts. Still, the models confirm that women pay fewer bribes than men yet are more likely to perceive street-level institutions as corrupt. Interestingly, while Protestant countries report significantly lower perceptions of corruption on aggregate, Protestants as individuals are no more or less likely to pay bribes or to perceive street-level intuitions to be corrupt than individual members of other religions.

Also consistent with the measurement model, the experience of paying bribes is closely linked to the extent of contact with street level institutions. By contrast, the extent of street-level contacts has no direct effect on perceptions of corruption, although it does have significant indirect effects via the intervening influence of corruption experiences. Contact with an institution by itself has not effects of individuals perceptions of the institution; corrupt contacts increase perceptions of corruption, other contacts have no effect one way or the other.

The interaction effect on corruption experiences between Protestant context individual

street-level contacts (RML= -.021) indicates that in countries where the percentage of Protestants is relatively high, the frequency with which street level contacts result in bribery is significantly lower than elsewhere. Protestants generally have more contacts with street-level institutions but pay fewer bribes, other influences held constant.

Consistent with the central assumption of corruption perception measures that perceptions are driven by experience, the HLM results confirm that the experience of street-level bribery significantly influences perceptions of street-level corruption. Importantly, the effect of bribery experiences on street-level perceptions holds regardless of national context in that the relationship is not conditioned by level of development, democracy, percent Protestant or newspaper consumption. The relationship does appear to vary by international region, however. Specifically, the experience of corruption has much weaker effects on corruption perceptions in Africa and Asia where the size of the interaction terms (MLE = -.046 and -.043, respectively) substantially negate the positive overall effect (MLE = .072).

Nevertheless, although the experience of bribe paying significantly effects individuals' perceptions of corruption, these effects are dwarfed by the effects that individuals' perceptions of one type of corruption have on their perceptions of other types. Indeed, perceptions of political and civic corruption are the two strongest individual-level predictors of perceived street-level corruption in the model. Significantly, perceptions of other institutions have far greater influence on street-level perceptions than does the knowledge of street level-corruption obtained by the experience of paying bribes.

The cross-level interaction effects between perceived corruption and newspaper circulation further show that the impact of perceived political and civic corruption on street-level perceptions

is strongly mediated by newspaper consumption. This suggests that what people read about corruption has a greater impact on their perceptions than anything they witness first hand. This is the case, moreover, regardless of a country's level of economic development or democracy, although it varies a bit by geographic region. For perception of corruption perceptions 'seeing is not believing' so much as 'reading is believing' or even more to the point, 'believing is believing'. The process by which perceptions of corruption are formed appears to be one largely one based on media reports, magnified by the echo chamber of public and elite opinion.

What people remember and report about the experience of paying bribes over the past year also is shaped in important ways by the echo chamber of perceived corruption. In this sense, 'believing is seeing' as well. This effect is even stronger in more developed countries but it is statistically significant and substantial everywhere and is not related to newspaper circulation.¹¹ Nevertheless, the impact of corruption perceptions on experience is less than one-fifth as strong as the effects of perceptions on other perceptions. The impact of corruption perceptions on experience also is significantly smaller than the impact of institutional contacts. With respect to the experience of corruption there is at least a significant extent to which 'seeing is believing' even if what individuals 'remember' seeing see can be affected to a small but significant extent by what their beliefs about corruption predispose them to see.

Conclusions:

Increasing concerns, world-wide, about deepening democracy and improving governance

¹¹ Of course, newspaper circulation and economic development are highly correlated so the possibility of a media effect cannot be discounted entirely. However, the impact of newspaper circulation on the effects of corruption perceptions in the corruption experience model is not statistically significant even when GDPPP is omitted.

give impetus to the search for systematic and reliable measures of corruption that apply across time and space. This research contributes by analyzing two of the more promising, recent approaches to measuring corruption which rely on individual perceptions of corruption and the experience of paying bribes. Our results suggest, on balance, that both individual experiences and perceptions of corruption can serve as reasonable if imperfect measures of corruption. Each is internally consistent, reasonably well differentiated, and varies in ways consistent with prevailing theory. While both measures are subject to selective perception and memory effects, both also reflect in fundamental ways individual opportunities and motivations for engaging in corrupt behavior.

Nevertheless, the evidence also suggests that corruption experience measures are superior. Corruption experiences have better measurement properties; they are less affected by selective perception and memory effects and are more affected by the extent of personal contacts with different institutions. Of particular concern, individuals tend to perceive corruption as all of a piece. They do not distinguish clearly between corruption in street-level as opposed to political or civic institutions. Even when they do discriminate among different institutions their perceptions of corruption in one type of institution are heavily influenced by their perceptions of other institutions in a manner suggesting the existence of strong echo chamber effects with the potential to seriously inflate estimates of actual corruption.

Individuals' recollections of their contacts with and bribes paid to different street-level institutions also are interrelated, but individuals are better able to distinguish among the different street-level institutions – especially with respect to their recollections of bribes paid. Moreover, while recollections of bribe paying can be colored by perceptions – individuals have a tendency to

‘see’ what they expect to see or what they think they ought to see – the experience of corruption is much less affected by perceptions and more affected by the extent of their contacts with different institutions.

Individual experiences and perceptions of corruption are related at both the aggregate and (to a much lesser extent) individual levels, but perceptions of corruption in all types of institutions are much higher (i.e. worse) than is justified by the experiences that individuals report, and the gap is substantial. While the gap between the experience and perception of corruption varies by region, level of national economic development and type of regime, these differences are mostly matters of degree; perceptions of corruption far exceed the experience of corruption in all places and contexts and by very large margins.

Insofar as perceptions of corruption pressure national governments and international agencies to “do something” about corruption, the gap between corruption perceptions and experience may have beneficial consequences. But another consequence of relying on inflated corruption perception measures is that they can undermine individual moral codes making people more likely to engage in corruption in the belief, like it or not, that it is normal and accepted behavior in their national context.

References:

- Abed , Geroge T and Sanjeev Gupta, eds. 2002. *Governance, Corruption and Economic Performance*. Washington, DC: International Monetary Fund.
- Anderson, Christopher J. and Yuliya V. Tverdova. 2003. "Corruption, Political Allegiances, and Attitudes toward Government in Contemporary Democracies." *American Journal of Political Science* 47(1): 91-109.
- Banfield, Edward. 1958. *The Moral Basis of a Backward Society*. Glencoe, IL, The Free Press.
- Bardhan, Pranab. 1997. "Corruption and Development: A Review of Issues." *Journal of Economic Literature* 35(3): 1320-1346.
- Dahl, Robert. 1989. *Democracy and its Critics*. New Haven: Yale University Press.
- Diamond, Larry. 1999. *Developing Democracy*. Baltimore: Johns Hopkins University Press.
- Diamond, Larry J and Leonardo Morlino. 2004. "Assessing the Quality of Democracy" in Guillermo O'Donnell, Jorge Vargas Cullell, and Osvaldo M. Iazzetta, eds. *The Quality of Democracy*. South Bend: University of Notre Dame Press.
- Dollar, David, Sandra Fisman, and Roberta Gatti. 2001. "Are Women Really the "Fairer" Sex? Corruption and Women in Government." *Journal of Economic Behavior & Organization* 46:423-29.
- Donchev, Dilyan Donchev and Ujhelyi, Gergely. 2007. *Do Corruption Indices Measure Corruption?* Available at SSRN: <http://ssrn.com/abstract=1124066>.
- Egger, Peter and Hannes Winner. 2006. "How Corruption Influences Foreign Direct Investment: A Panel Data Study." *Economic Development and Cultural Change* 54(2): 459-486.
- Gambetta, Diego. 2002. "Corruption: An Analytical Map" in S. Kotkin and A. Sajo, eds.,

- Political Corruption in Transition: A skeptic's Handbook*. Budapest: Central European University Press, 33-56.
- Golden, Miriam A. and Lucio Picci. 2005. "Proposal for a New Measure of Corruption, Illustrated with Italian Data." *Economics & Politics* 17(March): 37-75.
- Heidenheimer, Arnold J., Michael Johnson, and Victor Levine, eds. 1989. *Political Corruption: A Handbook*. New Brunswick, NJ: Transaction Publishers.
- Hellman, Joel S. 1998. "Winners Take All: The Politics of Partial Reform in Postcommunist Transitions." *World Politics* 50(2): 203-234.
- Huntington, Samuel P. 1968. *Political Order in Changing Societies*. New Haven, CT: Yale University Press.
- Johnston, Michael. 2005. *Syndromes of Corruption: Wealth, Power, and Democracy*. Cambridge: Cambridge University Press.
- Kaufmann, Daniel, Kraay, Aart and Mastruzzi, Massimo. 2008. "Governance Matters VII: Aggregate and Individual Governance Indicators, 1996-2007." *World Bank Policy Research Working Paper* No. 4654 Available at SSRN: <http://ssrn.com/abstract=1148386>.
- Knack Stephen. 2006. "Measuring Corruption in Eastern Europe and Central Asia: A Critique of the Cross-Country Indicators." *Journal of Public Policy* 27(3): 255-292.
- Knack, Stephen and Philip Keefer. 1995. "Institutions and Economic Performance: Cross National Tests Using Alternative Institutional Measures." *Economics & Politics* 7(3): 207-227.
- Lambsdorff J. 2005. *Consequences and Causes of Corruption: What Do We Know from a Cross-Section of Countries?* Passau: University of Passau.
- Lambsdorff, Johann Graf. 2007. "The Methodology of the Corruption Perception Index 2007"

- (http://www.transparency.org/policy_research/surveys_indices/cpi).
- Lipset, Seymour M and Lipset and Gabriel S Lenz. 2000. "Corruption, Culture, and Markets." in Lawrence E. Harrison, and Samuel P. Huntington, eds., *Culture Matters*. New York: Basic Books.
- Liu, Alan P. 1983. "The Politics of Corruption in the People's Republic of China." *The American Political Science Review* 77(3): 602-623.
- Mauro, Paulo. 1995. "Corruption and Growth." *The Quarterly Journal of Economics* 110(3): 681-712 .
- Mishler, William and Richard Rose. 2002 "Learning and Re-Learning Regime Support: The Dynamics of Post-Communist Regimes." *European Journal of Political Research* 41(1): 5-35.
- Montinola, Gabriella R. and Robert W. Jackman. 2002. "Sources of Corruption: A Cross-Country Study." *British Journal of Political Science* 32(1): 147-170.
- Nye, J. S. 1967. "Corruption and Political Development: A Cost-Benefit Analysis." *American Political Science Review* 61(2): 417-427.
- Nisbett, Robert E and Timothy D Wilson. 1977. "Telling More Than We Can Know: Verbal Reports on Mental Processes." *Psychological Review* 83(3): 231-259.
- O'Donnell, Guillermo, Jorge Vargas Cullell, and Osvaldo M. Iazzetta, eds. 2004. *The Quality of Democracy*. South Bend: University of Notre Dame Press.
- Oldenburg, Philip. 1987. "Middlemen in Third-World Corruption: Implications of an Indian Case." *World Politics* 39(4): 508-535.
- Pharr, Susan J. 2000. "Officials' Misconduct and Public Distrust: Japan and the Trilateral

- Democracies." In Susan J. Pharr and Robert D. Putnam eds. *Disaffected Democracies: What's Troubling the Trilateral Countries?* Princeton: Princeton University Press.
- Przeworski, Adam. Michael Alvarez, J.A. Cheibub, F. Limongi, *Democracy and Development*. 2000. New York: Cambridge University Press.
- Rose, Richard and Doh Chull Shin. 2001. " Democratization Backwards: The Problem of Third-Wave Democracies." *British Journal of Political Science* 31(2): 331-354.
- Sandoltz, Wayne and William Koetzle. 2000. "Accounting for Corruption: Economic Structure, Democracy, and Trade." *International Studies Quarterly* 44(1): 31-50.
- Schumpeter, Joseph. 1950. *Capitalism, Socialism, and Democracy*. New York: Harper and Row.
- Seligson, Mitchell A. 2006. "The Measurement and Impact of Corruption Victimization: Survey Evidence from Latin America." *World Development* 34(2): 381-404.
- Seligson, Mitchell A. 2002. "The Impact of Corruption on Regime Legitimacy: A Comparative Study of Four Latin American Countries." *The Journal of Politics* 64(2): 408-433.
- Svensson, Jakob. 2005. "Eight Questions about Corruption." *The Journal of Economic Perspectives* 19(3); 19-42.
- Sung, Hung-En. 2003. "Fairer Sex or Fairer System? Gender and Corruption Revisited." *Social Forces* 82(2): 703-723.
- Swamy, Anand, Steve Knack, Young Lee, and Omar Azfar. 2001. "Gender and Corruption." *Journal of Development Economics* 64: 25-55.
- Treisman, Daniel. 2007. "What Have We Learned About the Causes of Corruption from Ten Years of Cross-National Empirical Research?" *Annual Review of Political Science* 10: 211-244.

Warren, Mark E. 2004. "What Does Corruption Mean for Democracy." *American Journal of Political Science* 48(2): 328-343.

You, Jong-Sung and Sanjeev Khagram. 2005. "A Comparative Study of Inequality and Corruption." *American Sociological Review* 70(1):136-157.

Zakaria, Fareed. 1997. "The Rise of Illiberal Democracy." *Foreign Affairs* 76(6): 22-43.

Table 1: Standardized Direct and TOTAL (Direct + Cumulative Indirect) FML Effects Within Corruption Measurement Model

| Variables | Street Level Contacts | | Street-Level Bribes Reported | | Perceived Street-Level Corruption | | Perceived Political Corruption | | Perceived Civic Corruption | |
|-----------------------------------|-----------------------|-------|------------------------------|-------|-----------------------------------|-------|--------------------------------|-------|----------------------------|-------|
| | Direct | Total | Direct | Total | Direct | Total | Direct | Total | Direct | Total |
| Gender: Female | .000 | .000 | -.05 | -.05 | .00 | .00 | .00 | .00 | .00 | -.00 |
| Age | -.06 | -.06 | -.03 | -.09 | -.07 | -.09 | -.04 | -.04 | .00 | -.03 |
| Education | .18 | .18 | .00 | .03 | -.05 | -.05 | .00 | -.00 | .00 | .00 |
| Income | .07 | .07 | -.02 | -.02 | -.03 | -.06 | -.03 | -.03 | .00 | -.02 |
| Religion: Protestant | .09 | .09 | .00 | -.03 | -.08 | -.19 | -.15 | -.15 | .00 | -.11 |
| Street Level Contacts | ---- | ---- | .38 | .36 | .00 | -.03 | .00 | -.09 | .00 | .01 |
| Street-Level Bribes | .00 | .00 | ---- | -.04 | -.07 | -.07 | -.02 | -.02 | .03 | .02 |
| Perceived Street-Level Corruption | .00 | .00 | .58 | -.55 | ---- | -.04 | .00 | -.01 | .00 | .01 |
| Perceived Political Corruption | .00 | .00 | -.06 | .12 | .40 | .62 | ---- | -.00 | .69 | .70 |
| Perceived Civic Corruption | .00 | .00 | -.32 | -.05 | .47 | .47 | .00 | .00 | ---- | .00 |
| R² | 6.3% | | 19.3% | | 64.4% | | 2.2% | | 48.9% | |

All non-zero direct effects are significant at .001 level.

N= 58,161

Table 2: Hierarchical Model of Corruption Experiences and Perceptions
 (Restricted Maximum Likelihood Estimates with Robust Standard Errors)

| Individual-Level Variables <i>x Country Level Interactions</i> | Street-Level Bribes Reported | | Perceived Street-Level Corruption | |
|---|------------------------------|---------|-----------------------------------|---------|
| | b | SE | b | SE |
| Individual Level Intercept | .298 | .040*** | 3.147 | .040*** |
| <i>x Lg GDPPP</i> | .138 | .064*** | -.233 | .054*** |
| <i>x % Protestant (x 100)</i> | | | -1.04 | .154*** |
| <i>x Newspapers/000 capita</i> | | | -.795 | .414* |
| <i>x Africa^a</i> | -.112 | .037** | | |
| <i>x Asia</i> | -.091 | .020*** | -.354 | .100*** |
| <i>x W. Europe</i> | | | -.418 | .105*** |
| Street-Level Contacts | .112 | .015*** | .003 | .005 |
| <i>x % Protestant(x 100)</i> | -.021 | .012* | | |
| Street-Level Bribes | na | na | .072 | .008*** |
| <i>x Africa</i> | | | -.046 | .016** |
| <i>x Asia</i> | | | -.043 | .015** |
| Perceived Street-Level Corruption | .073 | .015*** | na | na |
| <i>x Lg GDPPP</i> | .039 | .008*** | | |
| <i>x S. America</i> | .060 | .027** | | |
| Perceived Political Corruption | na | na | .254 | .007*** |
| <i>x Newspapers/000 capita</i> | | | .154 | .062** |
| Perceived Civic Corruption | na | na | .368 | .010*** |
| <i>x Newspapers/000 capita</i> | | | .164 | .067** |
| <i>x Asia</i> | | | .056 | .020** |
| Gender: Female | -.044 | .013*** | .021 | .010** |
| Age | .008 | .013 | -.005 | .006 |
| Education | .001 | .010 | -.004 | .010 |
| Income | -.000 | .014 | -.010 | .011 |
| Protestant² | -.009 | .020 | -.010 | .011 |
| Pseudo R² (% Variance Reduction) | | | | |
| Individual-Level / Country-Level | 40.3 / 78.9 | | 51.5 / 85.1 | |

Notes: *** $p \leq .001$; ** $p \leq .05$; * $p \leq .10$

a. Other regional dummies included but never significant: North America, Middle East, and Eastern Europe/FSU.

Figure 1: Mean Public Perceptions of Street-Level vs. Political and Civic Corruption (5=extremely Corrupt; 1 = Not at all Corrupt)

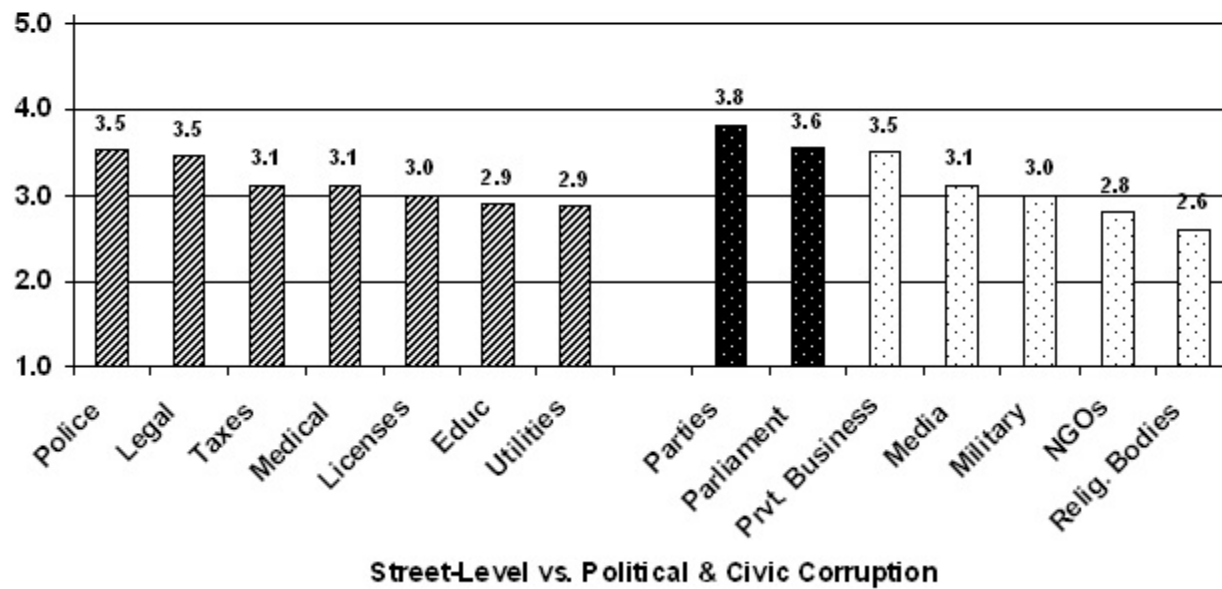


Figure 2: Frequency of Contacts With and Bribes Paid (Total and Per Contact) To Seven Street-Level Institutions in Past Year

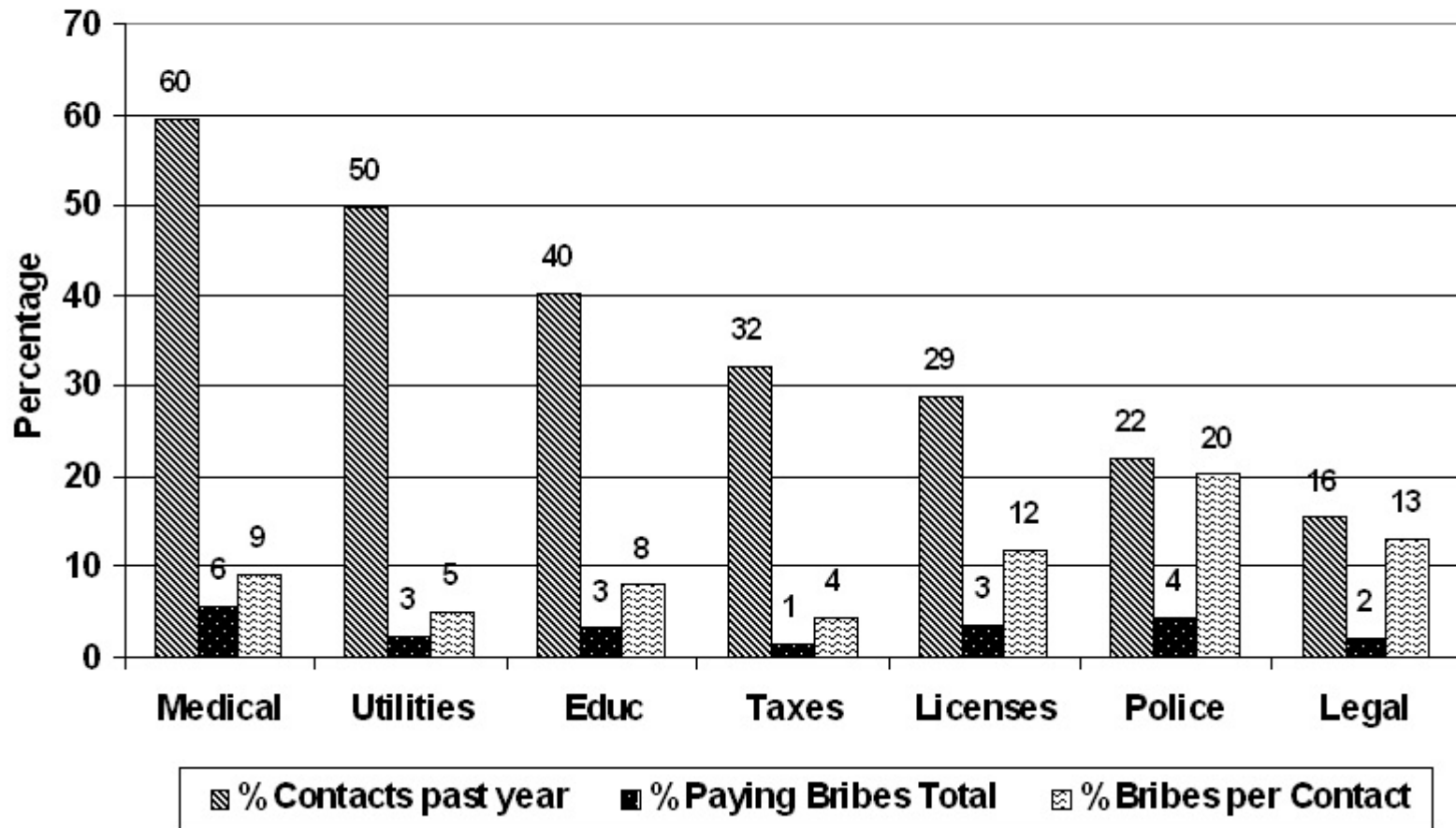


Figure 3: Perceptions vs. Experience of Street-Level Corruption

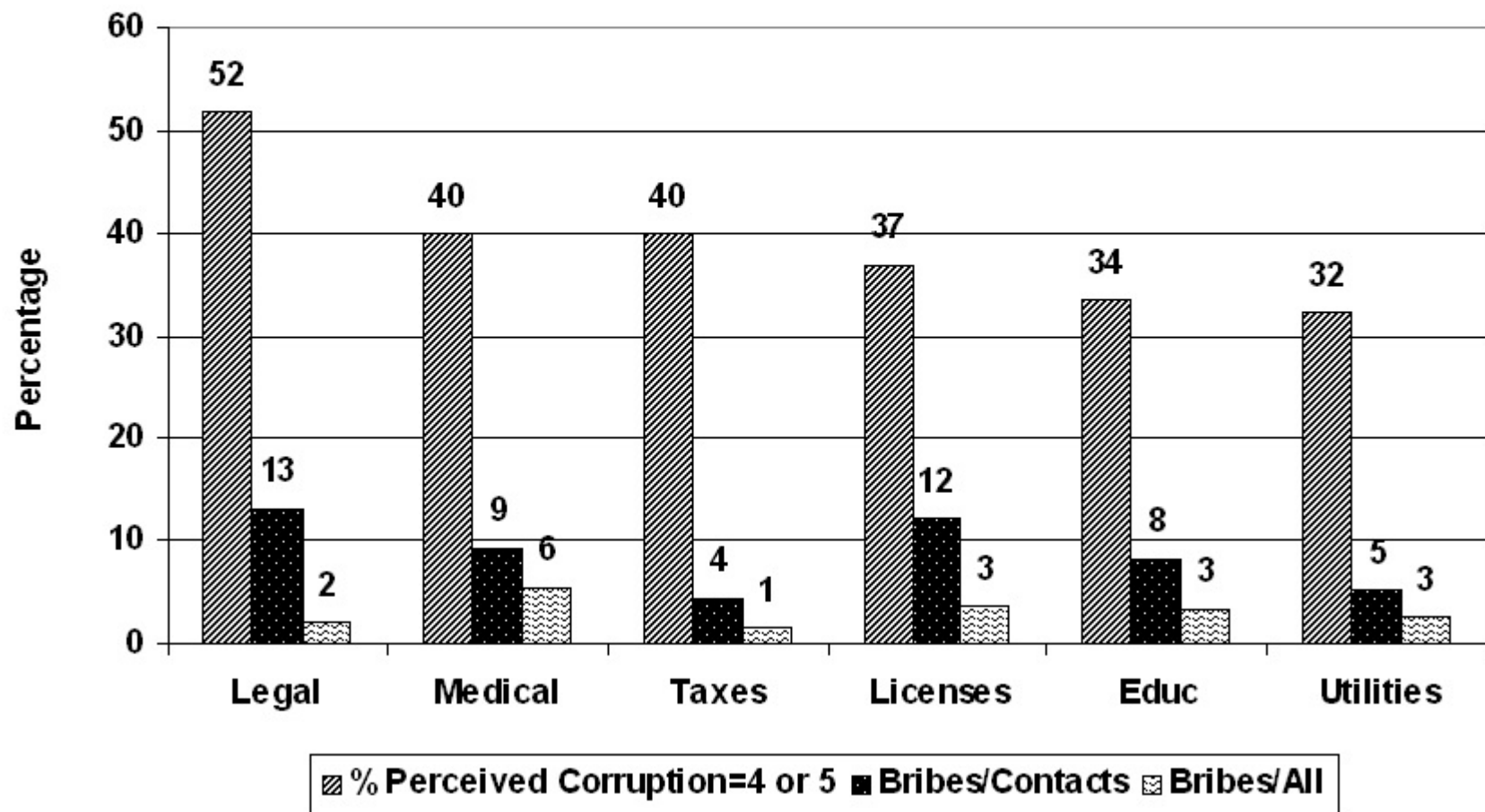


Figure 4: Discrepancy between Mean Corruption Perception and Experience By Region and Regime Type

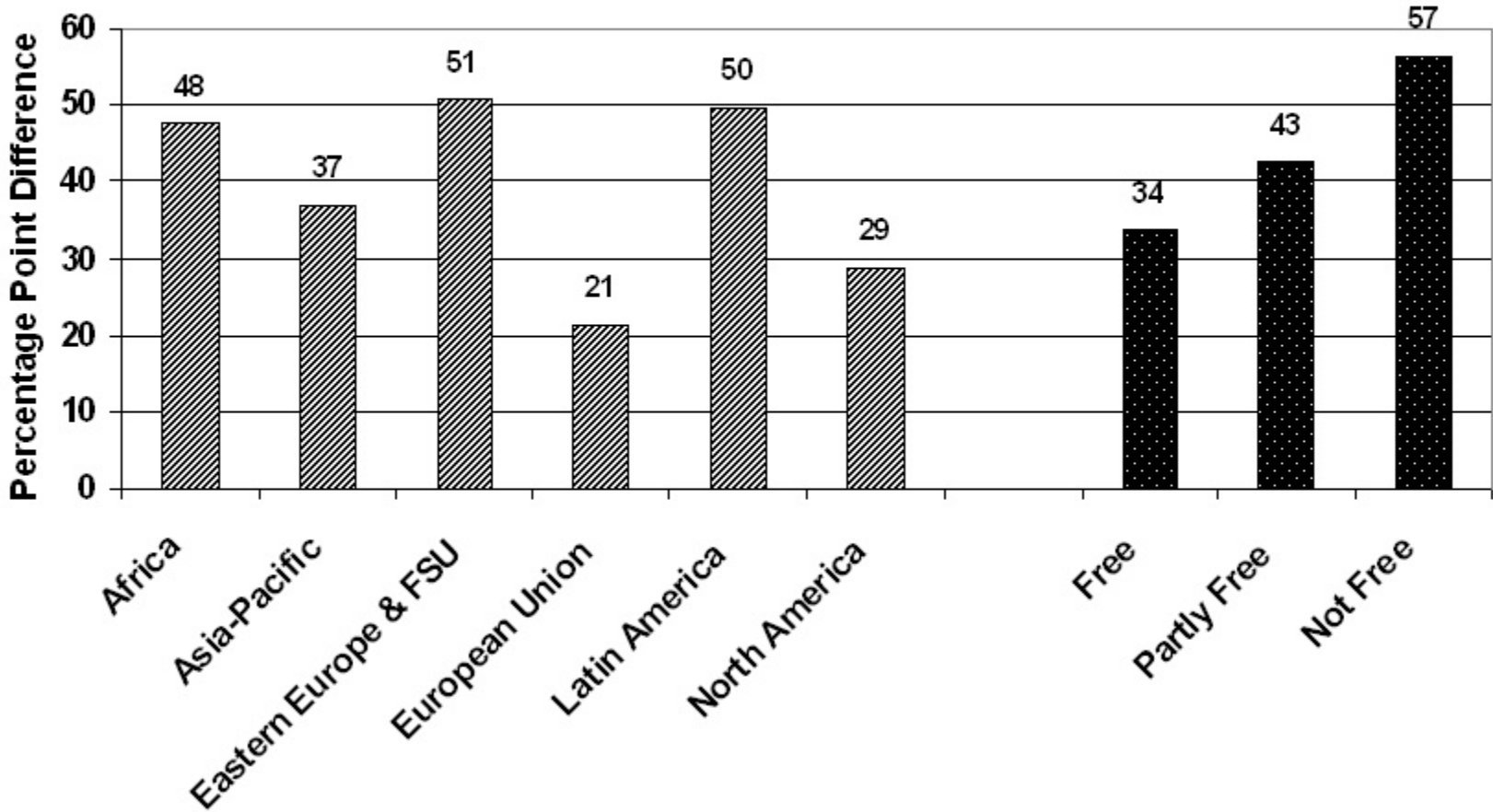


Figure 5: Baseline Measurement Model of Corruption Experiences and Perceptions

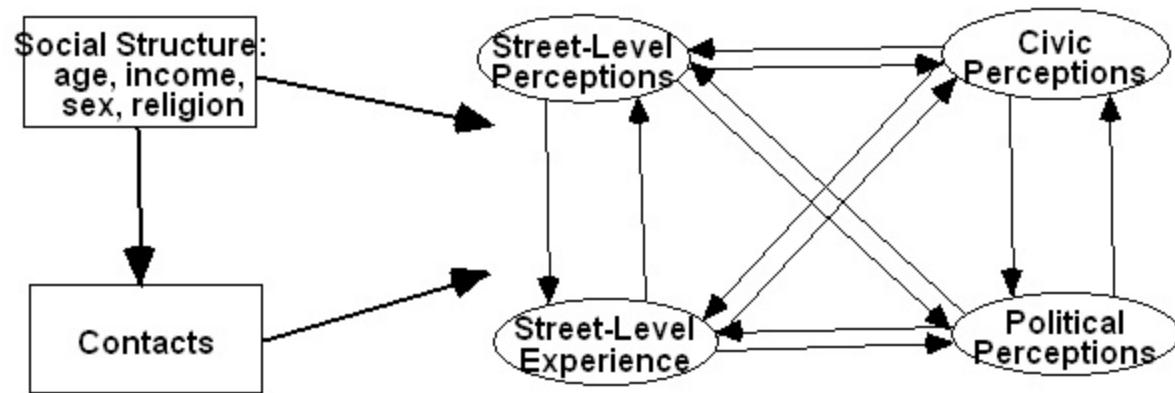
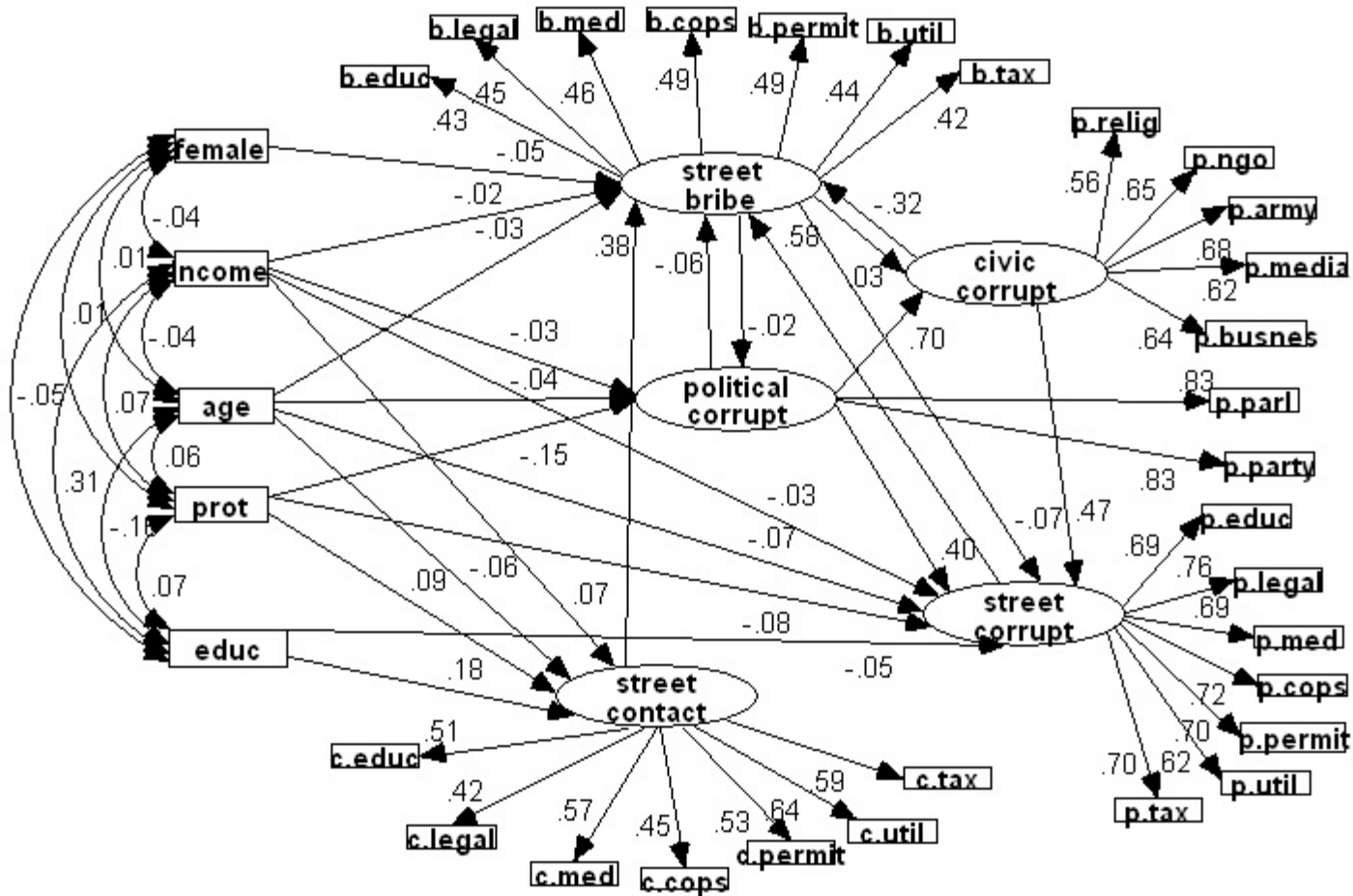


Figure 6: Measurement Model of Individual Corruption Experiences and Perceptions
 Across 60 Countries
 (Full Maximum Likelihood Standardized Estimates)



**Appendix A:
Country Coverage and Methodology of
2006 Global Corruption Barometer**

| Countries | Mode | Sample Type | Size |
|--------------------|-------------------------------------|-------------------------------|-------------|
| Albania | Face-To-Face | Urban | 800 |
| Argentina | Face-To-Face | National | 1010 |
| Austria | Face-To-Face | National | 969 |
| Bolivia | Face-To-Face | Urban | 1319 |
| Bulgaria | Face-To-Face | National | 1001 |
| Cameroon | Face-To-Face | Douala & Yaounde | 528 |
| Canada | Telephone | National | 1000 |
| Chile | Face-To-Face | Urban | 500 |
| Colombia | Telephone | Urban | 600 |
| Congo-Brazzaville | Face-To-Face | Brazzaville & Pointe Noire | 517 |
| Croatia | Face-To-Face | National | 1000 |
| Czech Republic | Face-To-Face | National | 1000 |
| Denmark | Telephone | National | 500 |
| Dominican Republic | Face-To-Face | Santa Domingo and Santiago | 537 |
| Fiji | Face-To-Face | Urban | 1024 |
| Finland | Online | National | 1244 |
| France | Face-To-Face | National | 1012 |
| Gabon | Face-To-Face | Libreville & Port Gentil | 515 |
| Germany | Telephone | National | 505 |
| Greece | Telephone | Urban | 1000 |
| Hong Kong | Online | National | 1001 |
| Iceland | Online | National | 1018 |
| India | Face-To-Face | National | 1058 |
| Indonesia | Face-To-Face | Urban | 1000 |
| Israel | Telephone | Urban | 500 |
| Italy | Self-Administered Questionnaires | National | 988 |
| Japan | Face-To-Face | National | 1203 |
| Kenya | Face-To-Face | National | 2001 |
| Kosovo | Face-To-Face | Albania+ Population | 979 |
| Luxembourg | Telephone | National | 528 |
| Macedonia | Face-To-Face | National | 1001 |
| Malaysia | Face-To-Face | Urban | 1250 |
| Mexico | Face-To-Face | National | 700 |
| Moldova | Face-To-Face | National | 993 |
| Morocco | Face-To-Face | Urban | 516 |
| Netherlands | CASI | National | 1000 |

| | | | |
|-----------------------|---------------------|---------------------|-------------|
| Nigeria | Face-To-Face | Urban | 500 |
| Norway | Online | National | 1008 |
| Pakistan | Face-To-Face | National | 796 |
| Panama | Telephone | National | 498 |
| Paraguay | Face-To-Face | Urban | 500 |
| Peru | Face-To-Face | Urban | 1123 |
| Philippines | Face-To-Face | Urban | 100 |
| Poland | Face-To-Face | National | 1021 |
| Portugal | Telephone | Urban | 1000 |
| Romania | Face-To-Face | National | 1081 |
| Russia | Face-To-Face | National | 1502 |
| Senegal | Face-To-Face | Dakar Region | 511 |
| Serbia | Face-To-Face | National | 1000 |
| Singapore | Telephone | National | 1002 |
| South Africa | Telephone | National | 1001 |
| Spain | Telephone | National | 1504 |
| Sweden | Telephone | Urban | 1000 |
| Switzerland | Telephone | National | 1000 |
| Taiwan | Telephone | National | 1000 |
| Thailand | Telephone | Urban | 1000 |
| Turkey | Telephone | National | 2045 |
| Ukraine | Face-To-Face | National | 1025 |
| United Kingdom | Face-To-Face | National | 1200 |
| USA | Online | National | 1022 |
| Venezuela | Face-To-Face | Urban | 1000 |

Source: English Global Corruption Barometer 2006 Full Report, pp 27-28 at http://www.transparency.org/policy_research/surveys_indices/gcb/2006

Appendix B: Definitions, Coding, Means and Standard Deviations of Variables in Analysis

| Variables | Description/Coding | Mean | SD |
|--|---|-------------|-------------|
| <i>Individual-Level</i> | | | |
| Perceived Street-Level Corruption | Mean perceived corruption of the Education System. Legal System/Judiciary, Medical services, Police, Registry and Permit Services, Utilities, and Tax Revenue on a 5-point scale where 1 means not at all corrupt and 5 means Extremely corrupt. | 3.13 | 1.01 |
| Perceived Political Corruption | Mean perceived corruption of Political Parties and the Parliament/Legislature on a 5-point scale where 1 means not at all corrupt and 5 means Extremely corrupt. | 3.69 | 1.13 |
| Perceived Civic Corruption | Mean perceived corruption of the Business/Private Sector, Media, the Military, NGOs, and Religious Bodies on a 5-point scale where 1 means not at all corrupt and 5 means Extremely corrupt. | 3.01 | .95 |
| Street-Level Bribes | Number of bribes paid in past year to Education System. Legal System/Judiciary, Medical services, Police, Registry and Permit Services, Utilities, and Tax Revenue | .23 | .71 |
| Street-Level Contacts | Number of contacts in past year with Education System. Legal System/Judiciary, Medical services, Police, Registry and Permit Services, Utilities, and Tax Revenue | 2.5 | 2.0 |
| Gender: Female | Gender: Female = 1; Male= 0 | .52 | .50 |
| Age | Age: 1 = Under 30; 2 = 30-50 3 = 51-65; 4 = 66+ | 2.09 | .92 |
| Education | Education: 1= No or basic Education; 2 = Secondary Education; 3=Post-Secondary/College | 2.13 | .69 |
| Income | Family Income: 1=Low/Med Low; 2=Med/Med Hi; 3=High | 1.68 | .71 |
| Protestant | Religion: 1=Protestant; 0 = Other Religion or none | .12 | .33 |

Appendix A: Definitions, Coding, Means and Standard Deviations of Variables in Analysis (continued)

| Variables | Description/Coding | Mean | SD |
|-----------------------------|---|---------------|---------------|
| <i>Country-Level</i> | | | |
| Lg GDPPP/cap | 2005 GDP per capita, PPP (current international \$) from World Bank's World Development Indicators | 9.29 | 1.02 |
| % Protestants | Protestants as % of population 1980, from La Porta et al. 1999. "The Quality of Government," Journal of Law, Economics, and Organization, downloaded from Daniel Treisman, UCLA. | 15.64 | 26.16 |
| Newspapers/000 cap | Newspapers per 1000 inhabitants, as of 1998, downloaded from World Bank World Development Indicators. | 167.47 | 142.55 |