What does cross-national empirical research reveal about the causes of corruption?

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During the last 15 years, empirical studies of corruption—understood as the misuse of public office for private gain—have mushroomed. The main impetus has been the publication of cross-national indexes of "perceived corruption," first by the organization Transparency International and then by a team of economists at the World Bank. These ratings aggregate the assessments of international risk analysts, business executives, other experts, and survey respondents from the countries in question. Scholars have found that higher perceived corruption, measured in this way, correlates with a variety of plausible explanatory factors.

The assumption behind such work has been that these indexes of perceived corruption were a possibly noisy but nevertheless unbiased indicator of the actual extent of corruption. An early question that was perhaps given too little attention was *how* experts would be able to accurately assess this (while the methodology for aggregating the expert assessments was described in detail, how the experts arrived at their ratings was never explicit). Still, the approach seemed defensible as long no other cross-national data existed for a large number of countries, and as long as there was no compelling reason to suspect systematic error.

As other sources of information about corruption levels have become available, however, doubts have increased. A number of surveys have asked country residents whether they or a household member had been expected to pay a bribe in any form in the preceding year. Other surveys of business managers have asked how often firms like theirs were expected to pay bribes to officials in return for public services. The country averages of such "experience-based" indicators of corruption turn out to correlate quite imperfectly with the perceived corruption measures. While the highly developed democracies have low estimates of corruption by either

measure, among less developed countries the reported frequency of bribe demands and the perceived level of corruption often diverge widely.

In this review, I briefly summarize results of studies of the perceived corruption indexes, discuss the problems with the data, and present the results of analysis of the correlates of one experience-based measure.

Analyzing perceived corruption

The two indexes of perceived corruption most often used in empirical work are the Corruption Perceptions Index (CPI) of Transparency International (TI) and a rating of control of corruption constructed by Daniel Kaufmann and colleagues at the World Bank (WB).[1] Both aim to reduce measurement error by averaging a number of different sources. Although the method of aggregation and country coverage differ somewhat, the resulting measures correlate very highly (for instance, r = .98 in 2004). TI's ratings have been available annually since 1995; the WB estimates were bi-annual from 1996 to 2002, and have been annual since then. Coverage for both has increased over time, reaching 185 countries (TI) and 210 countries (WB) in 2010-11. In addition, some scholars have analyzed cross-national ratings of the level of corruption produced by the risk analysts Business International and Political Risk Services (which publishes the *International Country Risk Guide*).

Studies have found that lower perceived corruption, using these measures, correlates with higher economic development (La Porta et al. 1999, Ades and Di Tella 1999, Treisman 2000); more democratic government (Treisman 2000, Montinola and Jackman 2002); more press

[1] Details can be found at http://cpi.transparency.org/cpi2011/ and http://info.worldbank.org/governance/wgi/index.asp.

freedom (Brunetti and Weder 2003, Adsera, Boix, and Payne 2003); parliamentary rather than presidential constitutions (Panizza 2001, Gerring and Thacker 2004, Lederman, Loayza and Soares 2005, Kunicová and Rose-Ackerman 2005); plurality electoral systems rather than proportional representation (especially closed list PR) (Persson, Tabellini, and Trebbi 2000, Kunicová and Rose Ackerman 2005); smaller districts in open-list PR systems (Golden and Chang 2007); political centralization, rather than federalism (Goldsmith 1999, Treisman 2000, Kunicová and Rose Ackerman 2005, Gerring and Thacker 2004); fiscal decentralization (Fisman and Gatti 2002); a Protestant tradition (La Porta et al. 1999, Treisman 2000); a history of British colonial rule (Treisman 2000); low natural resource endowments (Ades and Di Tella 1999); low ethnolinguistic fractionalization (La Porta et al. 1999); openness to international trade (Ades and Di Tella 1999, Treisman 2000, Sandholtz and Koetzle 2000, Sandholtz and Gray 2003, Gerring and Thacker 2005); less intrusive state regulation (Treisman 2007); low inflation (Braun and Di Tella 2004); and greater representation of women in the legislature and government (Swamy et al. 2001; Dollar, Fisman and Gatti 2001). Not all of these results are robust to the inclusion of additional controls, the use of data from different years, or the inclusion of different sets of countries (Treisman 2007).

Doubts about the measures

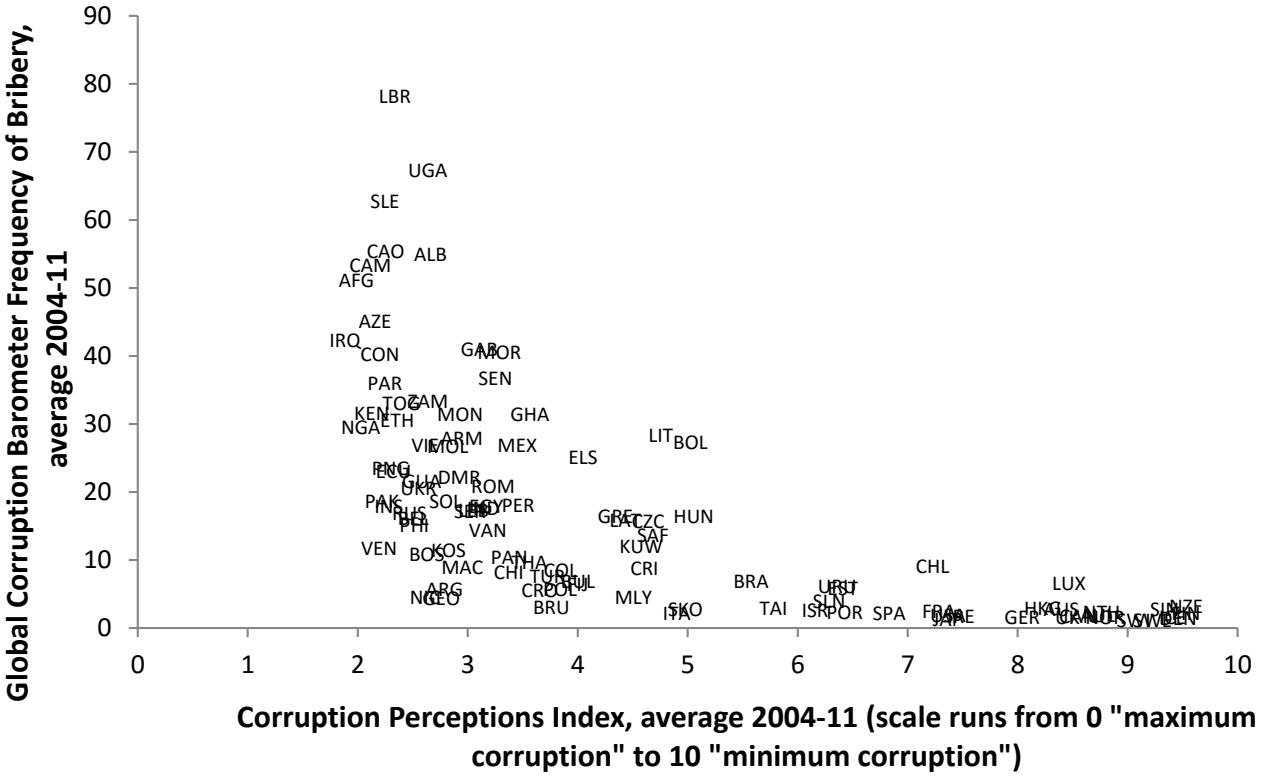
However, serious questions have been raised about whether the perceived corruption measures capture cross-national differences in corruption levels or just differences in countries' reputations, based in part on prevailing stereotypes and media coverage. Such doubts have been fueled by a number of studies within particular countries that compared expert or popular

evaluations to some more objective measure of the actual corruption level—and detected little or no relationship between the two.

Olken (2009) found that Indonesian villagers' assessments of the degree of corruption in local road-building projects were only weakly related to the actual level, as estimated by engineers who examined the roads' quality and inferred the associated levels of kickbacks. Rose and Mishler (2010) found that, among survey respondents in Russia in 2007, perceptions of the prevalence of corruption were unrelated to actual experience of it. For instance, while 89 percent thought that most police officers were corrupt, only five percent said that during the previous two years they or a household member had found it necessary to pay a bribe to one. A respondent's perception of the extent of bribery was not significantly associated with either the number of contacts he had had with officials or the number of bribes he had paid; however, such perceptions *were* related to the respondent's exposure to media stories about corruption. Razafindrakoto and Roubaud (2010) surveyed both country experts and residents of eight African countries and found that the experts grossly overestimated the extent of corruption that the residents would report; across countries, there was no correlation between the experts' perceptions and the population's experience.

In recent years, more surveys have begun questioning both the public and firm managers about their concrete experience with corruption. For instance, since 2004 Transparency International has, in its Global Corruption Barometer (GCB), asked respondents whether they or any member of their household had paid a bribe to any public official during the previous 12 months. The incidence of corruption estimated from such survey questions does correlate across countries with levels of perceived corruption. However, especially among those countries considered more corrupt, there are large gaps between opinions and reported experience.

Figure 1. Corruption perceptions and corruption experience, 2004-2011



Sources: Data downloaded from Transparency International website, and provided to author by Transparency International.
Note: GCB: percent of respondents saying they or household member had paid a bribe during preceding 12 months.

Figure 1 illustrates the problem. I have plotted TI's CPI against its Global Corruption Barometer measure of the frequency with which respondents report having paid bribes, averaging both variables for all available years between 2004 and 2011 in order to avoid being misled by short-term fluctuations. The two series are correlated at r = -.63 (for the CPI, high numbers are associated with *lower* corruption, so the correlation is negative). Rich democracies cluster in the bottom right-hand corner of Figure 1, where reported bribes and perceived corruption are both low. Some poor autocracies or troubled democracies, such as Liberia and Uganda, have both high reported bribes and high perceived corruption.

But rather than a downward sloping line, the graph traces the shape of an "L." Many countries that are rated the same on one dimension have widely divergent scores on the other. In Macedonia and Chile, about the same proportion of survey respondents said they or a household member had paid a bribe during the previous year. Yet Chile is perceived to have little corruption (about as much as in Japan), whereas Macedonia is considered to be extremely corrupt (comparable to Uganda). At the same time, Liberia and Nicaragua are perceived to be about equally corrupt; yet while 78 percent of Liberians on average report having paid bribes the previous year, only 5 percent of Nicaraguans say the same. Moreover, analyses of the determinants of corruption find that many factors that explain countries' perceived corruption—from media freedom to the empowerment of women—do not correlate strongly with experience-based measures (Treisman 2007, Weber Abramo 2008, Donchev and Ujhelyi 2010).

One possible explanation is that the two indicators measure different types or dimensions of corruption. However, given the uncertainty about exactly *what* the perceived corruption indicators measure (constructed, as they are, from multiple sources, using different questions), such rationalizations seem ad hoc. All one can really say is that the CPI is measuring something somewhat *different* from what the GCB question is measuring—but whether that is another dimension of corruption or something else entirely cannot easily be determined. Another possibility is that the experts, country residents, and journalists whose writing about governance informs global opinion are themselves influenced by folk theories about what causes corruption. When asked how widespread corruption is in a given country, lacking any direct information, they then rely on such theories, inferring that countries where the government is authoritarian, hostile to the media, mineral-rich, protectionist, and misogynistic must also be more corrupt. If this is the case, it is not surprising or informative that these same characteristics of states

correlate with high perceived corruption.

Experience-based measures have their own problems. Since bribery is illegal, asking about individuals' or firms' own experiences with it may elicit insincere answers. Most surveys go to some lengths to reassure respondents that their answers will remain anonymous. Some inquire only whether the respondent was "expected to pay a bribe," rather than whether he actually paid one. Some ask about "firms like yours" rather than the respondent's own enterprise, in the hope of thus eliciting information based on direct experience without the respondent having to incriminate himself. Still, such questions may prompt high non-response rates or underreporting. Azfar and Murrell (2009), using two surveys of businesses in Romania—one of which employed the technique of randomized response—estimated that the reported incidence of corruption was about one third too low because of respondents' reticence. Such underreporting is probably not random across countries. Analyzing the World Bank's Productivity and Investment Climate Private Enterprise Surveys, Jensen, Li, and Rahman (2010) found that the non-response rate to a question on corruption was somewhat higher in countries with lower press freedom.

Could the reticence of respondents explain the poor match between the GCB and CPI measures in Figure 1? Does underreporting in corrupt but repressive autocracies generate the low frequency of bribery reports in countries believed by the experts to be highly corrupt? The answer seems to be no. Suppose for a moment that the CPI accurately captures cross-national differences in corruption but that the GCB underestimates the level of corruption in countries with less freedom because respondents there underreport. (Given the problems with the CPI already noted this is questionable, but suppose it is true for the sake of argument.) Then the gap between the two indicators should be greater in countries with less freedom. However, among all but the very richest countries (those with GDP per capita above $25,000 a year), the correlation

between the gap and measures of political freedom is either zero (using Freedom House's Press Freedom index) or slightly positive (using Polity2). In other words, the countries where bribery is "underreported" do not tend to be those with greater restrictions on freedom of speech and the press. Respondent reticence in repressive countries may well be a problem for experience-based corruption measures; but it does not convincingly explain why the GCB and CPI diverge.[2]

Correlates of experience-based corruption measures

Some scholars—myself among them—have concluded from the preceding considerations that cross-national comparisons should focus on experience-based measures, and that more numerous and sophisticated versions of these should be constructed. To date, there are two main categories of such measures: those that focus on bribes extracted from ordinary citizens and those that assess the bribes paid by businesses. TI's GCB Survey exemplifies the first type. Another citizen-based measure comes from a cross-national survey conducted by the United Nations Interregional Crime and Justice Research Institute (UNICRI) in the late 1990s. The researchers asked respondents whether in the preceding year "any government official, for instance a customs officer, police officer or inspector" had asked or expected them to pay a bribe for his services.[3] Among surveys focused on businesses, the World Bank's World Business Environment Survey (WBES) regularly interviews managers in a large number of countries, and asks whether it is common in the respondent's line of business, when dealing with state officials, to "have to pay some irregular 'additional payments' to get things done." Every few years, the

[2] I calculate the gap between the standardized values of the indicators, expressed so that both measure the extent of corruption positively. The very richest countries tend to have both low perceived corruption and reported bribery, as well as high levels of freedom.

[3] For details and data, see http://www.unicri.it/documentation_centre/publications/icvs/statistics.php.

World Bank and the European Bank for Reconstruction and Development jointly poll company executives in post-communist countries for the Business Environment and Enterprise Survey.

The search for determinants of experience-based measures is less advanced than the analysis of corruption perceptions. Fan et al. (2009), using the 2000 WBES data, found that firms reported having to pay bribes more often in countries where income per capita was lower. Greater administrative decentralization—as captured by the number of tiers of government—was associated with more frequent bribery, while fiscal decentralization correlated with less frequent solicitations. There were no robust relationships with democracy, mineral resources, openness to trade, Protestant tradition, or former British colony status. Treisman (2007) examined data from the GCB, UNICRI, and WBES to see whether previously noted correlates of perceived corruption could also explain the frequency of bribery reported in these surveys. The only reasonably consistent result was for economic development (reported experience with bribery was more common in poorer countries). Measures of costly regulation, mineral dependence, and openness to trade were sometimes significant in the expected direction, but not consistently so. However, the number of countries included in these surveys was relatively low, never rising above 55 in the regressions presented, which—in addition to the problem of respondent reticence—suggests some caution.

Since then, more years of GCB data have accrued, making it possible to expand the analysis. In Table 1, I examine the reported frequency of bribery, averaged across the six GCB surveys conducted between 2004 and 2010. Averaging should reduce random noise , and it also permits one to include more countries, since those surveyed differ somewhat from year to year. Among explanatory variables, I include those hypothesized to be important in previous work. These relate to countries' political and legal history, their religious traditions, ethnic

composition, economic development, political institutions, representation of women in politics, and economic and regulatory policies.[4] My strategy, as in Treisman (2000), is to introduce explanatory variables in rough order of their historical precedence—that is, starting with those for which the cross-national variation was determined in the distant past and progressing gradually to those which continue to change from day to day. The idea is to move down the causal chain, identifying the additional contribution of temporally posterior factors, and observing how coefficients change as new variables are introduced. Factors that prove consistently insignificant are dropped from subsequent models.

Of course, this is an imperfect solution to the problem of endogeneity. Many of the explanatory factors—from the level of economic development to the choice of political institutions—may themselves be influenced by the level of corruption. Unobserved characteristics of countries may affect both corruption and the independent variables, producing spurious correlations. Unfortunately, none of the standard remedies for endogeneity works well in this setting. It is extremely hard to find defensible instruments for the various explanatory variables; almost any country characteristic that one might nominate could also affect corruption directly or could influence other explanatory variables. For obvious reasons, one cannot experiment on the historically formed cross-national variation in corruption. What experiments can be designed are necessarily local and concern only policies or features of the environment that are easy to manipulate. (One cannot, for instance, change the religious beliefs of countries' populations in order to see how this affects corruption.) Perhaps as the number of annual surveys increases, it will become possible to analyze corruption measures in a panel with country fixed effects to control for unobserved heterogeneity, but I am not aware of any convincing efforts to

[4] For discussions of the theoretical arguments behind such variables, see Treisman (2000, 2007).

Table 1: Percent reporting bribes paid in preceding year, GCB, average 2004-2010

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Colonial history								
British	7.93							
	(5.69)							
Spanish/Portuguese	3.94							
	(4.62)							
French	19.16**			13.20***	11.19**	10.94*	10.06**	9.27*
	(7.92)			(4.41)	(4.92)	(5.67)	(5.02)	(5.51)
Other colony	5.01							
	(4.76)							
Legal family								
British common law		-3.84						
		(5.42)						
French civil law		-2.86						
		(4.11)						
German law		-20.58***		-5.36	-.31			
		(3.35)		(3.50)	(2.64)			
Scandinavian law		-20.92***		10.57	-2.19			
		(3.34)		(8.26)	(6.30)			
Religious adherents								
Catholic %			-.05					
			(.04)					
Protestant %			-.15***	-.21**	.00			
			(.05)	(.08)	(.06)			
Muslim %			.12*	.10	.03			
			(.06)	(.06)	(.05)			
Ethnolinguistic fract.								
Elf 1985				21.42***	-3.37			
				(7.98)	(6.51)			
Economic development								
Ln GDP per capita PPP 2003					-10.45***	-9.84***	-9.21***	-9.61***
					(1.61)	(1.66)	(1.58)	(1.78)
Oil and gas income per capita					.66**	.53	.25	.35
					(.32)	(.32)	(.25)	(.26)
Democracy								
Polity2						-.39	-.71	-.78
						(.47)	(.47)	(.53)
FH press freedom (high=free)						.04	.02	.06
						(.10)	(.10)	(.11)
In bottom fifth of FH press freedom scale							-18.63***	-13.15**
							(5.51)	(5.75)
Institutions								
Presidential system								.76
								(1.38)
Pure proportional representation system								1.76
								(2.77)
Mixed PR/plurality system								4.35
								(3.98)
No direct elections								-9.06*
								(5.01)
Constant	11.39***	22.58***	19.63***	8.24**	109.72***	103.16***	101.89***	100.76***
	(4.07)	(3.33)	(3.38)	(3.69)	(16.18)	(13.38)	(13.04)	(15.41)
R^2	.1254	.1155	.1310	.3298	.6532	.6359	.6653	.6770
N	102	95	99	93	90	90	90	89

Table 1: (cont.)

	(9)	(10)	(11)	(12)	(13)	(14)
Colonial history						
French	9.67**	None	11.14*	11.40**	12.95**	10.39**
	(4.65)		(5.81)	(4.90)	(5.37)	(4.38)
Economic development						
Ln GDP per capita PPP 2003	-8.73***	-7.73***	-9.28***	-8.00***	-7.19***	-6.70***
	(1.27)	(1.70)	(1.51)	(1.26)	(1.18)	(.87)
Democracy						
Polity2	-.73**	-1.72***	-.67**	-.70*	-.72**	-.73**
	(.29)	(.52)	(.32)	(.36)	(.32)	(.31)
In bottom fifth of FH press freedom scale	-19.75***	-33.54***	-17.00**	-18.06***	-18.36***	-16.92***
	(5.26)	(8.99)	(7.63)	(6.35)	(4.94)	(5.23)
Institutions						
Federal	-2.62					
	(2.26)					
Subnational expenditure share		-.01				
		(.07)				
Tiers of government			-.87			
			(1.53)			
Gender						
Women in lower house, %				-.05		
				(.18)		
Women in government, %				.03		
				(.11)		
Economic policy						
Imports (% GDP)					.00	
					(.04)	
Average of Ln inflation, 2000-05					.35	
					(1.67)	
Regulation						
Cost of starting a business, 2005						.029***
						(.005)
Constant	99.36***	99.35***	106.64***	92.20***	83.58***	79.15***
	(12.21)	(15.01)	(16.94)	(11.60)	(14.47)	(9.10)
R^2	.6676	.6398	.6687	.6580	.6550	.6896
N	90	51	86	87	87	89

Sources: See Table 2.
Note: Robust standard errors in parentheses. * p < .10, ** p < .05, *** p < .01.

do this yet.[5] Meanwhile, one should treat analyses of the correlates of experience-based corruption measures as suggestive but certainly not conclusive evidence of causal relationships.

[5] The use of corruption perceptions data in panels is particularly problematic for reasons reviewed in Treisman (2007).

I start, in columns 1-3, by examining how countries' colonial histories, legal families, and religious traditions correlate with the extent to which citizens report being expected to pay bribes today. (The excluded categories are, respectively: never colonized, socialist legal family, and percent of the population that are not Protestants, Catholics, or Muslims.) In regressions with no additional controls, corruption tends to be higher in former French colonies and countries with more Muslim adherents; it tends to be lower in those with German or Scandinavian-style legal systems and with more Protestants. The German and Scandinavian legal tradition variables seem to be picking up the same thing as the measure of Protestantism—the former become less significant and the latter more so when both are included together, in column 4. This column also suggests that greater ethnic fragmentation is associated with higher corruption.

However, all the historical, legal, religious, and ethnic effects except for French colonial history disappear once one introduces economic development, in column 5. One interpretation of the change from column 4 would be that Protestantism and ethnic homogeneity foster economic growth, but have no direct effect on corruption. Higher income per capita is strongly associated with less corruption, and higher income from oil and gas is weakly linked to more of it. Controlling for economic development, media freedom is not related to the level of bribery in a linear way. Nor is democracy in the simplest model (column 6).

The effect of these variables might be obscured by underreporting among countries with more repressive institutions, as discussed in the previous section. To adjust for this, in column 7 I include a dummy for countries in the bottom 20 percent of Freedom House's 100-point press freedom scale. (The countries in this category for which all other variables are available are Belarus, China, and Vietnam.) This turns out to be highly significant; in these countries with very low press freedom, the frequency with which respondents report bribery is more than 10

percentage points lower than one would expect given the other factors. Either the authoritarian regimes in Belarus, China, and Vietnam are more successful in fighting corruption than countries with somewhat greater freedoms or the respondents in these countries are substantially underreporting demands for bribes. Beyond the bottom 20 percent, differences in press freedom do not correlate with corruption, but adjusting in this way does increase the estimated effect of democracy, which becomes statistically significant in some subsequent models.

Neither proportional representation nor mixed electoral systems were associated here with significantly more corruption than plurality systems, and presidential democracies did not differ significantly from parliamentary democracies (column 8). (The control for no direct national elections picks up just China, so the low press freedom dummy now represents just Vietnam and Belarus.) Controlling for political institutions eliminates the effect of oil and gas income, suggesting that, if there is a resource curse that leads to greater bribe extraction from individuals, it operates through the effect of natural resources on institutions. (There might, of course, be direct effects of natural resource wealth on bribe extraction from *businesses*, which are not captured by the GBC.) None of the measures of political decentralization that I tried proved significant. This differs from the results of Fan et al. (2009), perhaps because problems created by multi-level regulatory structures impinge more seriously on businesses (as captured by the WBES survey) than on individuals (studied here). Unlike in some analyses of perceived corruption, I found no effects of the representation of women in parliament or government, the inflation rate, or the degree of openness to trade. But bribery did tend to be higher in countries with higher values of one measure of regulatory red tape—the estimated cost of starting a business.

These results change little if one includes continent dummies—in fact, some are stronger—suggesting that they are not picking up mere regional differences. The French colonial history dummy is apparently not capturing the effect of a French-style civil law system, which is found in a much larger set of countries, including many former Spanish colonies. Some other aspect of French colonial administration must be at work—or perhaps some characteristic of the countries the French colonized (those in the data are mostly in West Africa, but also include Algeria, Morocco, Syria, Cambodia, and Haiti). As in previous studies, using just about any measures, the strongest and most robust finding is that corruption is less widespread in more economically developed countries. The direction of causation is harder to establish, and there are plausible arguments running in both directions. On the one hand, corruption may impede growth (Mauro 1995). On the other hand, economic development could reduce corruption by various mechanisms, including by increasing the average level of education, which empowers citizens to complain effectively about mistreatment (Botero, Ponce, and Shleifer 2012).

Conclusion

A variety of studies have examined the determinants of corruption perceptions. However, the possibility that experts and poll respondents infer a country's level of corruption from their knowledge of observable country characteristics raises questions about research that uses observable country characteristics to explain the level of perceived corruption. Analyses of experience-based measures, derived from surveys that ask about respondents' own experiences with bribery (or those of family members or "firms like theirs"), turn up rather fewer plausible and robust correlates of corruption. Such measures may, in turn, suffer from respondent reticence.

Analyzing one cross-national measure of individuals' experience with bribery, and adjusting for the possibility of underreporting in countries with little press freedom, I showed that the reported frequency of bribery was consistently higher in former French colonies, in less developed and less democratic countries (except in a few with very low press freedom, where respondents' candor might be questioned), and in those with more regulatory red tape, as proxied by the cost of starting a firm. Economic development, democracy, and the regulatory environment may all be influenced by traditions of corruption, so the direction of causation should not be assumed. Various factors found to be significant in studies of perceived corruption—including the electoral system, presidentialism, decentralization, female representation, trade openness, and inflation—failed to show any robust influence here.

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Table 2: Data used in Table 1

Variable	Notes	Sources
Average percentage reporting they or household member had paid bribe in previous 12 months	Country averages calculated using sampling weights	Global Corruption Barometer, data provided to author by Transparency International.
Colonial history		Treisman (2000)
Legal family		Global Development Network Growth Database, NYU, http://www.nyu.edu/fas/institute/dri/global%20development%20network%20growth%20database.htm
Religious adherents	Percent of the population adhering to given religion	La Porta et al. (1999)
Elf 1985	Probability that two randomly selected individuals from a given country will not be from same ethnolinguistic group, 1985	Philip G. Roeder. 2001. "Ethnolinguistic Fractionalization (ELF) Indices, 1961 and 1985." <http//:weber.ucsd.edu\~proeder\elf.htm>
Ln GDP per capita PPP 2003	Purchasing power parity estimates, in current international dollars	*World Development Indicators & Global Development Finance*, The World Bank, April 2008
Oil and gas income per capita	Total value of all oil and gas produced in country during the year, valued at world prices in dollars, divided by population., for 2004	Michael L. Ross, 2011-04, "Replication data for: Oil and Gas Production and Value, 1932-2009", http://hdl.handle.net/1902.1/15828 UNF:5:Hwe3jAjxG7fgOMzpGQXOxw== V4
Polity2	Polity2 score (+10: pure democracy to -10: pure autocracy), for 2004	Polity IV database, September 2009 version, http://www.systemicpeace.org/polity/polity4.htm
FH Press freedom (high=free)	Freedom House, index of press freedom, scale reversed so that higher numbers refer to greater freedom, for 2004	http://www.freedomhouse.org/report-types/freedom-press
Presidential system	Parliamentary system = 0, Assembly-elected President = 1, Presidential System = 2, for year 2000.	Thorsten Beck, George Clarke, Alberto Groff, Philip Keefer, and Patrick Walsh, 2001. "New tools in comparative political economy: The Database of

		Political Institutions." 15:1, 165-176 (September), World Bank Economic Review.
Proportional representation system and mixed PR/plurality system	2004	From Institute for Democracy and Electoral Assistance (IDEA), using 5-category breakdown, as in Pippa Norris, *Democracy Crossnational Data*, Release 3.0 Spring 2009, at http://www.hks.harvard.edu/fs/pnorris/Data/Data.htm.
Federal	Classified as a federation by Elazar, plus Ethiopia, Serbia-Montenegro, and Bosnia-Herzegovina, which became federal after Elazar's article.	Elazar, Daniel J. 1995. "From Statism to Federalism: A Paradigm Shift," *Publius*, 25, 2, pp.5-18; author's updates.
Subnational expenditure share	subnational share of expenditures, average for 1995-2000, available years, as percent of total expenditures.	IMF Government Finance Statistics, as in World Bank Fiscal Decentralization Indicators, http://www1.worldbank.org/publicsector/decentralization/fiscalindicators.htm
Tiers of government	A territorial unit, X, represents a tier of government if all the following conditions are met: 1. X has a government, or at least a governor. 2. X represents a level of general administration, not just a provider of a particular public service. 3. The territory of the next highest tier, Y, is (at least in some parts) subdivided into units of type X. Note that a tier may or may not have a legislative council, and its executive may or may not be elected.	Daniel Treisman, *Decentralization Dataset*, 2008, available at: http://www.sscnet.ucla.edu/polisci/faculty/treisman/Pages/unpublishedpapers.html
Women in lower house, %	Percentage of women in lower house of parliament, 2004 (IPU 2004)	Norris(2009), from International Parliamentary Union

Women in government, %	Women in government at ministerial level (as % of total) 2005 (UNDP 2007)	Norris (2009), from UN Development Program
Imports (% GDP)	Imports of goods and services as % GDP, 2003	*World Development Indicators & Global Development Finance*, The World Bank, April 2008
Average of Ln inflation, 2000-05		*World Development Indicators & Global Development Finance*, The World Bank, April 2008
Cost of starting a business, 2005	Cost to start a business (% of income per capita)	World Bank, *Doing Business* data downloaded April 2012, http://www.doingbusiness.org/data