

# Postcommunist Corruption

The apparent epidemic of corruption in the postcommunist countries since 1989 has shocked many observers. Some blame legacies of communism, uncertainties of the transition, or mistaken policy choices of reformers. Using two sources of survey data on perceived corruption, I examine: (1) whether postcommunist countries are particularly corrupt, and (2) why some are more corrupt than others. I find that postcommunist governments are on average somewhat more “corrupt” than others, but that 75-85 percent of the difference can be explained by their relatively low economic development and limited history of democracy. Most of the variation in corruption levels among postcommunist countries can be predicted from factors fixed as of the start of transition—1989 economic development, years under communism, Protestant share of population, and natural resource endowments. Political conditions during the transition—political instability, executive-parliament polarization—also explain some variation, as does political decentralization. The extent of democracy, trade, and indicators of progress in economic and legal reforms do not have any clear, statistically significant impact.

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# 1 Introduction

Since 1989, many observers have been shocked by an apparent dramatic increase in corruption in Eastern Europe and the former Soviet Union. In all the postcommunist countries, bureaucrats and politicians have found ways to profit from their positions. The apparent epidemic of graft coincided with—and appeared to exacerbate—a crisis of state power, as communist era institutions disintegrated before more modern, democratic replacements could be built. By 2002, the focus for political economists studying the region had shifted from the economics of transition to government in transition (Shleifer 1997, EBRD 1999).

The extent of postcommunist corruption has been attributed to various causes. Some see it as the legacy of communist institutions and norms that emphasized personal connections, fused economic and political power, and subordinated the rule of law to party diktat (e.g., Levin and Satarov 2000). Others view it as the outgrowth of the uncertainties and profit opportunities of the economic transition itself. Still others blame the mistakes of reformers, whom they accuse of designing economic reforms inappropriately and paying too little attention to institutional construction.<sup>1</sup> All appear to take for granted that postcommunist corruption is a distinct phenomenon that needs to be explained in its own terms.

At the same time, many writers have noted stark differences between countries (e.g., Frye and Shleifer 1997). Some postcommunist states developed relatively honest, effective governments that are able to collect taxes, fund pension and healthcare systems, and respond to public demands. Hungary, Estonia, and Slovenia are often ranked alongside West European countries such as Greece and Italy. Other states degenerated quickly into oriental-style, authoritarian kleptocracies or fiscally-strapped political holding companies, stumbling from one crisis to the next. Scholars have sought to explain these diverging trajectories, attributing them to differences in initial conditions or in the identity and choices of early power holders (Shleifer 1997, EBRD 1999).

In this paper, I try to answer two questions. First, are governments in postcommunist countries particularly corrupt? To make sense, this question requires some benchmark (more on this below).

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<sup>1</sup> Stiglitz (1999) takes this line. Broadman and Recanatini argue that “poorly designed and inadequately implemented price liberalization reforms may create more incentives for corruption, since they may serve the vested interests of an elite class” (Broadman and Recanatini 2000, p.2).

Second, why are governments in some postcommunist countries more corrupt than others? I use several measures of corruption perceptions to estimate the level of corruption in the countries studied. All are imperfect but are nevertheless based on something more than the casual hunches from which much analysis of these questions begins. I use the results of a growing literature on the empirical analysis of cross-national variation in corruption—as well as more specific writings about the postcommunist countries—to generate hypotheses.<sup>2</sup>

## 2 Are postcommunist countries particularly corrupt?

A first way to understand this question is in its most basic sense. Are postcommunist countries more corrupt than average? For several decades, certain risk analysis firms and business consultancies have constructed ratings of the level of “perceived corruption” in a large number of countries, based on the evaluations of country experts or surveys of business people. The organization Transparency International (TI) and a team of researchers at the World Bank have both compiled aggregate indicators using a large number of these ratings. The TI “corruption perceptions indexes” are recalculated annually as the source ratings and surveys are updated;<sup>3</sup> the World Bank team constructed one version of its index in 1998 and a second in 2001.<sup>4</sup> These indexes are highly correlated (usually at .95 or higher), but the country coverage differs, with the World Bank index including many more cases than TI. Table 1 shows the average corruption scores for postcommunist countries and for others, calculated from the 1998 and 2001 versions

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<sup>2</sup> As examples of the former, see Ades and Di Tella (1999), La Porta et al. (1999), Treisman (2000).

<sup>3</sup> More details on TI’s methodology in constructing this index is available on TI’s website ([www.transparency.org](http://www.transparency.org)). Briefly, the TI indexes are compiled by averaging the standardized values of a number of separate surveys and country ratings published by consultancies and business risk analysts (16 ratings from 8 organizations in 2000). The selection of sources changes somewhat from year to year, and ratings are from a three-year period. Some sources capture mostly evaluations by expatriate businessmen of the country where they are posted; others reflect responses of domestic business people. All surveys ask reasonably comparable questions about the level of corruption. In all, 90 countries appeared in the 2000 rating.

<sup>4</sup> The World Bank index is calculated from 12 surveys and country corruption ratings by business risk organizations, many of them the same as those used by Transparency International. The main difference is the method of aggregation. Whereas TI simply standardizes and averages the ratings, Kaufmann et al. weight each source according to how reliable it is, as proxied by how closely it correlates with the others. (They assume that each indicator is a noisy measure of the same underlying variable and model this variable in an unobserved components framework.) For details, see Kaufmann, Kraay and Zoido-Lobaton (1999a, 1999b, 2001).

of the World Bank's index and from the 1999 and 2000 versions of TI's.<sup>5</sup>

**Table 1: Mean Corruption Scores in Postcommunist and Non-Communist Countries**

	World Bank 1998	World Bank 2001	TI 1999	TI 2000
<b>Postcommunist</b>	-.42	-.35	3.26	3.35
<b>Non-communist</b>	.09	.10	5.08	5.20
<b>N</b>	150	152	96	87

Note: Higher scores signify *less* corrupt. All differences of means significant at  $p < .01$  (equal variances not assumed).

By all measures, the postcommunist states were rated significantly more “corrupt” on average than non-communist countries. Thus, in a naïve sense it is true that postcommunist countries have unusually corrupt governments. A somewhat more meaningful question, however, is whether the postcommunist countries are more corrupt than other countries that are similar to them in other respects. Is there something distinctively *postcommunist* about their corruption? Or are they no more corrupt than we should expect given their other characteristics?

To determine what other characteristics are relevant, previous studies analyzing the causes of corruption worldwide are useful. A number of papers have examined different perceived corruption indexes, and have found certain factors to be significant determinants—economic development, Protestant religious tradition, former British colonial rule, political decentralization, openness to trade, mineral exports, current democratic government or long exposure to democracy, a presidential regime, and proportional representation (La Porta et al. (1999), Ades and Di Tella (1999), Treisman (2000, 2002), Sandholtz and Koetzle (2000), Lipset and Lenz (1999), Goldsmith (1999), Kunicova (2001), Kunicova and Rose-Ackerman (2001), Persson, Tabellini and Trebbi (2001)).

Table 2 shows a series of regressions of perceived corruption on a dummy for postcommunist countries, gradually including controls for a few of these corruption-causing factors. Since the World Bank corruption index is available for considerably more countries than the TI ratings, I use the former. I show regressions using both the 1998 and the 2001 versions of the World Bank index as a basic

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<sup>5</sup> I classified as “postcommunist states” Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Georgia, Hungary, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Macedonia, Moldova, Mongolia, Poland, Romania, Russia, Slovakia, Slovenia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan, and Yugoslavia. I classified as “communist states” China, Cuba, Laos, North Korea, and Vietnam. All others except for Hong Kong (which I excluded from analysis), I classed as “non-communist”.

robustness check.<sup>6</sup> The World Bank team provides an estimate of the reliability of each country's rating, based on how closely the sources that went into constructing it correlate with the others (see Kaufmann, Kraay, and Zoido-Lobaton 1999, 2002). I use this information to place less weight in the regressions on the less reliable observations; specifically, I run weighted least squares, weighting by the inverse of each observation's "standard error".

Column 1 shows the coefficient when only a dummy for postcommunism is included in the regression. The results—consistent with those in Table 1—suggest that postcommunist countries were on average .59 points more corrupt on the 1998 scale (which ranged from -1.57 to 2.13) and .46 points more corrupt on the 2001 scale (ranging from -1.40 to 2.25). The column 2 regressions suggest that more than half of this effect derives from the fact that the postcommunist countries are relatively less developed. Economic development has been found to correlate extremely strongly with lower corruption, and models instrumenting with countries' distance from the Equator suggest that causation runs from development to cleaner government (see, e.g., Treisman 2000). Controlling for economic development reduces the size of the coefficient on the postcommunist dummy to just -.28 and -.20 in 1998 and 2001 respectively.<sup>7</sup> Adding a dummy for countries that have been democratic since 1950 reduces the postcommunist effect to just one sixth to one quarter its original size.<sup>8</sup> Thus, almost all the difference in average corruption levels between postcommunist and non-communist countries can be attributed to the lower economic development and undemocratic history of the former. Both of these factors are certainly related to their communist past, but there is nothing distinctively communist or postcommunist in their high corruption rates. For the most part, Uzbekistan has high perceived corruption today for the same reasons as Pakistan or Paraguay.

If one adds a control for the economic importance of natural resources, which may be related to higher corruption (column 4), the postcommunist effect disappears or even turns slightly positive in the 2001 data. This may be because of the large drop in cases in column 4—data on natural resource exports

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<sup>6</sup> Since the two are correlated at .95, it is not a very demanding check.

<sup>7</sup> This is not quite so straightforward since economic development is endogenous. However, results are similar running a 2SLS model with the country's latitudinal distance from the equator as an instrument for income. The coefficients are -.22 in the 1998 case and -.27 in the 2001 one.

<sup>8</sup> Since all became undemocratic by the late 1940s, this can be considered exogenous.

were missing for a number of countries, including some quite corrupt postcommunist ones. In column 5, I control for whether countries were ever colonized by the British—a variable found in previous work to correlate with lower corruption.<sup>9</sup> This control also reduces the postcommunism coefficient to either  $-.07$  (1998) or  $.007$  (2001). Thus, postcommunist countries might be slightly more corrupt because they were never colonized by the British—and so never acquired the common law legal system or associated legal culture that some have argued reduces corruption.

In short, almost all—if not all—the postcommunist corruption effect can be attributed to factors that have nothing to do with communism per se. Postcommunist states are somewhat more corrupt than average because they tend to be relatively less developed, have an undemocratic history, and—perhaps—because their legal systems were not influenced by the British tradition.

Table 2: Corruption and Postcommunism, Multiple Regressions

	World Bank Corruption 1998					World Bank Corruption 2001				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
<b>Postcommunist</b>	$-.59^{***}$ (.15)	$-.28^{***}$ (.11)	$-.15$ (.11)	$-.03$ (.12)	$-.07$ (.12)	$-.46^{***}$ (.16)	$-.20^{**}$ (.10)	$-.07$ (.11)	$.10$ (.12)	$.007$ (.12)
<b>Log GNP per capita<sup>a</sup></b>		$1.59^{***}$ (.11)	$1.16^{***}$ (.14)	$1.29^{***}$ (.16)	$1.18^{***}$ (.14)		$1.66^{***}$ (.11)	$1.30^{***}$ (.15)	$1.34^{***}$ (.17)	$1.36^{***}$ (.15)
<b>Democracy since 1950</b>			$.88^{***}$ (.16)	$.90^{***}$ (.16)	$.88^{***}$ (.16)			$.79^{***}$ (.18)	$.76^{***}$ (.18)	$.74^{***}$ (.18)
<b>Mineral exports<sup>b</sup></b>				$-.005^{***}$ (.002)						$-.004^*$ (.002)
<b>Former British colony</b>					$.20^{**}$ (.10)					$.24^{**}$ (.12)
<b>Constant</b>	$.21^{**}$ (.09)	$-5.69^{***}$ (.41)	$-4.30^{***}$ (.48)	$-4.69^{***}$ (.57)	$-4.45^{***}$ (.50)	$.17^*$ (.10)	$-5.95^{***}$ (.41)	$-4.81^{***}$ (.50)	$-4.91^{***}$ (.63)	$-5.09^{***}$ (.52)
<b>R<sup>2</sup></b>	.0695	.6580	.7512	.7724	.7595	.0393	.6468	.7091	.7340	.7189
<b>N</b>	150	124	124	99	124	116	152	128	102	128

Note: high score indicates *cleaner* government. WLS, weighting by inverse of “standard error”. White heteroskedasticity-corrected standard errors. <sup>a</sup> 1995 in WB 1998 regressions, 1997 in WB 2001 regressions. <sup>b</sup> percent of manufacturing exports that were ores, metals, or fuels, 1998 or a close year, World Bank, *World Development Indicators, 2000, 1999*.

## 2 Why are some postcommunist countries more corrupt than others?

### 2.1 The dependent variables

Postcommunist countries have followed strikingly different trajectories. In some, the first postcommunist governments liberalized the economy and focused on providing public services; in others, politics

<sup>9</sup> Treisman (2000) associates the relationship between former British rule and lower perceived corruption with a particular heritage of legal practices and legal culture. It might also be related to the distinction between common law and civil law legal systems (La Porta et al. 1999).

descended into a competitive struggle over rents; in yet others, an authoritarian cartel kept such rents—and the population too—under strict control. As of 2001, the “most corrupt” postcommunist government on the World Bank’s index—Turkmenistan—was rated between Nigeria and Somalia. The “least corrupt”—Slovenia—ranked slightly above Belgium. In this section, I present the results of a series of regressions I ran to try to see what factors might account for this variation.

The dependent variables came from two sources. First, I used the World Bank perceived corruption indexes discussed above. Both the 1998 and 2001 versions are available for all 28 postcommunist countries; in order to focus on the longest possible stretch of time since transition, I used the 2001 index. A second interesting source of data came from a survey of business managers in postcommunist countries (BEEPS) that the EBRD and the World Bank conducted in mid 1999.<sup>10</sup> Some 125-552 firm managers were questioned in face-to-face interviews in each of 22 countries, using a standard questionnaire. Firms were selected to ensure a sample that was reasonably representative of the country’s economy on the dimensions of size, location, sector, and export orientation.

The varied questions included make it possible to distinguish several related concepts. First, a measure of administrative corruption can be constructed from answers to a question which asked respondents to estimate the share of annual revenues that “firms like yours” typically devote to unofficial payments to public officials “in order to get things done”. Such payments might be made, the questionnaire added, to facilitate connection to public utilities, to obtain licenses or permits, to improve relations with tax collectors, or in relation to customs or imports. Hellman, Jones, and Kaufmann report an average response for each country.<sup>11</sup> I call this average estimated rate of bribes paid out of annual revenue the *bribe burden*. In another question, the survey asked respondents how problematic were a series of particular institutional obstacles for the operation and growth of their business. Among these was “corruption”. Responses were on a four-point scale, from 1, signifying “no obstacle”, to 4, signifying

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<sup>10</sup> For details, see Hellman, Jones, and Kaufmann (2000), Hellman, Jones, Kaufmann, and Schankerman (2000).

<sup>11</sup> The questionnaire actually asked respondents only to choose a particular range. The authors then coded as follows: 0% = 0; less than 1% = 1; 1-1.99% = 2; 2-9.99% = 6; 10-12% = 11; 13-25% = 19; over 25% = 25. This might tend to censor the higher observations, leading to a downward bias of the ratings for the high bribery countries. However, those reporting bribes greater than 25% of the total are likely to be rare, so the problem is not likely to be serious.

“major obstacle”. I use the country average response as a measure of the country’s *corruption obstacles*.

A valuable innovation of the BEEPS survey was to distinguish between the effects of administrative corruption and what the authors call “state capture”. Administrative corruption is the solicitation of bribes in return for favors in the implementation of preexisting laws and regulations. “State capture” refers to privatization of the actual rule-making process—the illicit and non-transparent sale of decisions on the content of rules, laws, decrees, or regulations. While corruption at the implementation stage is clearly related to corruption in the rule-making stage, it makes sense to try to distinguish the two both theoretically and empirically. To get at state capture, the BEEPS survey asked respondents to what extent the sale of parliamentary laws, presidential decrees, court decisions, etc., had directly affected their business. As the authors note, answers to these questions reflect “speculation of firms that other firms are engaging in improper behavior” rather than any direct experience or knowledge. The survey also asked “How often do firms like yours nowadays need to make extra, unofficial payments to public officials to influence the content of new laws, decrees, or regulations?” The authors report the percentage of respondents in each country who answered “sometimes”, “frequently”, “mostly” or “always”. Since this question asks about direct experience, I prefer it to the others. I label the country average on this the *frequency of state capture*.

This yields four dependent variables: the 2001 World Bank perceived corruption index, the bribe burden, corruption obstacles, and frequency of state capture. The World Bank indexes and the BEEPS “bribe burden” and “corruption obstacles” variables all aim to measure the extent of administrative corruption, using different sources, methodologies, or approaches. Note that the World Bank indexes are conceptually close to the BEEPS bribe burden variable. Most of the sources from which the World Bank indexes are compiled seek to measure the extent or frequency of official corruption, especially as it is likely to affect business (see Kaufmann, Kraay, and Zoido-Lobaton 2002). However, the information comes in part from different types of respondents—many of the World Bank index sources were surveys of foreign businesses or risk analysis firms; the BEEPS respondents were all domestic business people.

The “corruption obstacles” variable is a potentially noisier measure of the extent of corruption,



since it in fact conflates two questions: the extent of corruption, and how seriously—relative to other factors—it impedes business. In some circumstances, corruption might be widespread, but its impact on business might nevertheless be dwarfed by that of other obstacles. The BEEPS “state capture” variable is conceptually distinct from the others, measuring venality at the rule-making rather than the implementation stage in the policy process. There is no reason to expect a particularly close relationship between the frequency of state capture and administrative corruption; at times, these might even be substitutes. If the rulemakers are “too” honest, this should increase the incentive for determined entrepreneurs to bribe the implementers.

The country coverage of these variables differs. While the World Bank indexes are available for all 28 postcommunist countries, the BEEPS data only existed for 22. As Table 3 shows, there were relatively strong correlations between the corruption measures (especially the two World Bank indexes, which were correlated at .93), but far weaker and generally insignificant correlations between these and the state capture variable. Figure 1 shows how the average reported frequency of state capture correlates with the average reported bribe burden in different countries. Drawing lines through the mean values, we can divide the countries into those that are relatively “high” or relatively “low” in both state capture and the bribe burden, and those that are “high” on one dimension but “low” on the other. While some are high or low on both dimensions (Azerbaijan; Belarus), others have frequent capture but a low bribe burden

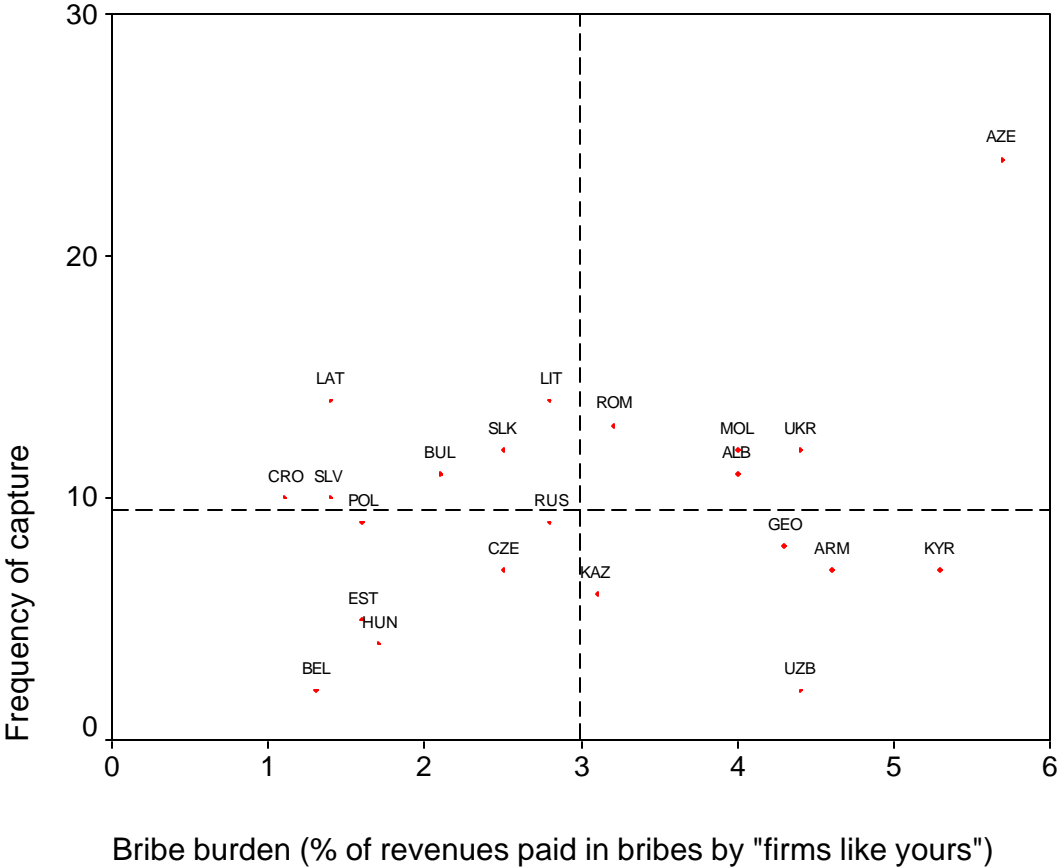
**Table 3: Correlations between dependent variables**

		<b>World Bank Perceived Corruption 1998</b>	<b>World Bank Perceived Corruption 2001</b>	<b>BEEPS Corruption Obstacles</b>	<b>BEEPS Bribe Burden</b>
<b>World Bank Perceived Corruption 2001</b>	<i>Correlation</i> <i>2-tailed sig.</i> <i>N</i>	.929** .000 28			
<b>BEEPS Corruption Obstacles</b>	<i>Correlation</i> <i>2-tailed sig.</i> <i>N</i>	.586** .004 22	.634** .002 22		
<b>BEEPS Bribe Burden</b>	<i>Correlation</i> <i>2-tailed sig.</i> <i>N</i>	.672** .001 22	.795** .000 22	.584** .004 22	
<b>BEEPS Frequency of Capture</b>	<i>Correlation</i> <i>2-tailed sig.</i> <i>N</i>	.149 .509 22	.226 .312 22	.393 .070 22	.287 .195 22

Sources: BEEPS, World Bank. \* Correlation is significant at the 0.05 level (2-tailed).

\*\* Correlation is significant at the 0.01 level (2-tailed).

Figure 1: Bribery and Capture in Postcommunist States



Dashed lines at cross-national mean values of variables. “Frequency of capture” = the percentage of respondents who said it was “sometimes”, “frequently”, “mostly”, or “always” necessary for firms like theirs to make extra, unofficial payments to public officials to influence the content of new laws, decrees, or regulations.

(e.g. Latvia), or low capture but a high bribe burden (the Central Asian republics plus Georgia and Armenia).<sup>12</sup>

### 2.2 Possible determinants

What might account for the variation in quality of government across the postcommunist world? Scholars, journalists, and other observers have suggested a range of possible causes, related to history, culture,

<sup>12</sup> Belarus under its authoritarian dictator rated lower than any other state on both administrative corruption and state capture. This might reflect an affinity between authoritarianism and clean government. More likely, it suggests that one of the freedoms curtailed by Lukashenko’s regime is the freedom to answer surveys frankly.

economic structure or development, political regime, leadership turnover, political instability, and the design of reform strategies. For convenience, I divide these into factors that were essentially fixed as of the fall of communism and those that reflect subsequent choices or developments.

### *2.2.1 The pre-transition legacy*

As discussed in Section 1, the level of economic development is a very strong and robust determinant of corruption around the world. Economic development *after* 1989 is clearly endogenous to the determination of corruption in the postcommunist countries. But it makes sense to ask how much of the variation in current levels of corruption can be explained by the level of economic development as of 1989 when the first communist regimes fell.<sup>13</sup> Second, Ades and Di Tella (1999) argue that countries with greater natural resource endowments will be subject to a more intense and corrupt struggle to appropriate the rents. Since some of the post-communist countries (Turkmenistan, Azerbaijan, Russia) derive significant wealth from the export of natural resources, I tested also to see whether a heavy focus on raw materials extraction, as of 1989, helped predict current corruption levels.<sup>14</sup>

Third, religious traditions were found to correlate significantly with corruption levels worldwide. Protestantism is associated with cleaner government. This might reflect a more individualistic culture, more tolerant toward dissent and less protective of hierarchy, or a greater institutional separation between church and state.<sup>15</sup> While Protestant adherents were not common in the communist countries—the median proportion of Protestants in the population was 4.9 percent—some countries were exceptions. As of 1980, 66 percent of Estonians and 22 percent of Hungarians were Protestant. It was, therefore, important to see whether religious tradition might help explain differences.<sup>16</sup> Fourth, the postcommunist countries differed in how long they had actually been under communist rule. This ranged from most Soviet republics, which

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<sup>13</sup> The source of data on 1989 per capita GDP is Fischer and Sahay (2000). The figures are adjusted for PPP.

<sup>14</sup> I used a simple index of the extent of natural resource endowments, from De Melo et al. (1997). Following Fischer and Sahay (2000), I code 0 for “poor”, 1 for “moderate”, and 2 for “rich”. While it would be preferable to use a measure of the actual extent of raw materials endowments or exports, data on several postcommunist countries were not available.

<sup>15</sup> Although in some Scandinavian countries the Protestant church was not a dissident sect but an established church.

<sup>16</sup> The data on religious adherents come from Barrett (1980).

were coded as turning communist with the 1917 revolution,<sup>17</sup> to Hungary, where the communist party only gained full control in 1948. If the absence of civil and political rights under communist regimes has gradual, cumulative effects, civic culture might be less degraded in those countries that turned communist later. At the same time, a recent period of democracy might bequeath countries institutional legacies that could be exploited to construct relatively cleaner postcommunist governments; instead of starting from scratch, such countries might be able to re-adopt and update old civil codes and bureaucratic institutions.

### *2.2.2 Postcommunist developments*

The particular political institutions that emerged in each country after the fall of communism may affect the extent of current corruption. Worldwide, corruption has been found to correlate negatively with democracy. The postcommunist countries differed greatly in the extent to which democracy had taken root by the late 1990s. While some became competitive political systems as early as 1990, others evolved into personalistic autocracies. To measure difference in this, I used the commonly-employed Freedom House ratings of countries' "political rights", averaged for 1991-99. Democracies (and semi-democracies) differ in the nature of their legislative and executive institutions. Recently, some scholars have suggested that presidential regimes are associated with higher corruption levels than parliamentary ones (Kunicova 2001). I looked for such effects among the postcommunist countries (classifications from Easter (1997).) Another dimension of political institutions is their vertical structure. Earlier crossnational analyses (Treisman 2000, 2002), found that political decentralization correlated with corruption. To look for such effects among the postcommunist countries, I tried including two variables related to decentralization. The first measured the number of subnational tiers of government a state's structure included; the second, the proportion of subnational tiers at which executives were elected.<sup>18</sup> The competition for bribes between officials at different levels of the state might be expected to lead to "overgrazing" of the bribe base and a

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<sup>17</sup> This is obviously a simplification: many were not fully brought under Bolshevik rule until the next year or even later, but this is unlikely to affect results. I took the variable from Fischer and Sahay (2000), and like them coded the end of communism in Eastern Europe as 1989 and in the former Soviet Union as 1992.

<sup>18</sup> The number of subnational tiers ranged from 1 (in Slovenia and Macedonia) to 3 (in Bulgaria, Belarus, Georgia, Russia, Slovakia, Ukraine, Uzbekistan, and Yugoslavia). The proportion with elected executives ranged from 0

heavy burden of corruption (Shleifer and Vishny 1993, Treisman 2000). On the other hand, democratic elections for local and regional officials might increase accountability and reduce corruption.

Political conditions might also be important. Some scholars have suggested that where the communist elite was more comprehensively replaced by a new generation of political leaders and officials, reforms were more effective (e.g., Shleifer 1997; EBRD 1999, chapter 5). I constructed a variable measuring the number of years as of 1999 since the office of national chief executive had been transferred to someone other than a communist party official. This is a very imperfect measure of turnover, focusing on just one office and ignoring subsequent reversals (when a communist regained the presidency, as for instance in Poland.) Still, it captures something about the nature of the early transition. Corruption might also correlate with political instability. When politicians have a shorter time horizon, they may try to cash in quickly rather than temper their appetites in order to stay in office for longer. I constructed a measure of the number of prime ministers that held office during 1990-99 inclusive. The more prime ministers, the greater was political instability, and the more corruption one might expect. This variable ranged from a low of three prime ministers in Belarus to a high of 13 in Lithuania.

Another political variable that might affect corruption is the degree of polarization between executive and legislature. Frye (2001) argues that economic performance was systematically worse in postcommunist countries where the two branches of government were dominated by opposing political forces. Such polarization might increase corruption in several ways. First, it is likely to result in the proliferation of inconsistent laws and executive regulations, facilitating the extortion of bribes by inspectors and other officials. Second, if the top leaders of the two institutions are themselves corrupt, their uncoordinated competition for bribes may lead to overgrazing similar to that associated with center-region competition (Shleifer and Vishny 1993). Third, when bureaucrats are agents of two mutually opposed principals they may be able to play one off against the other, evading effective monitoring and discipline. On the other hand, divisions between president and parliament might reduce corruption if the political competition between them leads each to monitor and expose the abuses of the other. Following

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percent (in Belarus, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, and Turkmenistan) to 100 percent in (Albania, Hungary, Latvia, Macedonia, Moldova, Slovenia, Ukraine, and Yugoslavia).

Frye (2001), I took the main political dividing line in early postcommunist countries to be that between communists and non-communists. I used his measure of polarization—the share of parliamentary seats held by the group (former communists, non-communists) that did not hold the presidency, averaged over the 1990-98 period. Countries ranged on this scale from 0 to 30.9.

Third, economic conditions during the transition might affect the growth of corruption. Very sharp drops in output might make it difficult for government to collect sufficient revenues to fund effective bureaucracies and law enforcement. And severe recession might increase the pressure on businesses to seek illicit competitive advantages. To test for this, I used a variable measuring the lowest level of annual real GDP reached in the country as a percentage of the 1989 level, from EBRD (1999).

A fourth potentially important set of variables relates to reform design and implementation. Observers disagree on whether rapid economic reform is good or bad for corruption. If postcommunist corruption is caused primarily by the rents and restrictions of the centrally planned economy, then the faster these are replaced by market competition and private property, the faster corruption should disappear. Some have associated extensive rent-seeking with incomplete or inconsistent reforms (Hellman 1998, Aslund, Boone and Johnson 1997). By contrast, some have seen the massive transfer of assets in rapid privatization as itself creating opportunities for corruption (Black, Kraakman, and Tarassova 2000). The EBRD publishes annual ratings of the extent of economic reform in different areas. I constructed two indexes—one for market liberalization (the sum of the EBRD's country scores for price liberalization, trade liberalization, and competition policy) and one for privatization (the sum of scores for small-scale privatization, large-scale privatization, and governance and enterprise restructuring). Both used 1999 data (see EBRD 1999). The marketization index ranged from 4 in Turkmenistan to 10.67 in Hungary. That for privatization ranged from 4 in Belarus to 11.67 in Hungary.

Some critics contend that reformers in certain countries neglected important institutional reforms such as the creation of an effective legal system (Stiglitz 1999). One might expect law-and-order to be more entrenched in postcommunist societies that underwent more far-reaching legal reforms. Since 1997, the EBRD has been conducting surveys of private law firms and academics in order to measure such

experts' perceptions about the extensiveness and effectiveness of reforms of commercial law. The 1999 survey covered pledge, bankruptcy law, company law, banking and financial institutions, capital markets, and the general effectiveness of the legal system and courts.<sup>19</sup> The EBRD's 1999 *Transition Report* published scores for the extensiveness and effectiveness of commercial law (based on responses on pledge, bankruptcy, and company law) and also for banking and capital markets law.<sup>20</sup> Each was measured on a five-point scale. I take an average of the "extensiveness" scores in commercial and financial law and also of the "effectiveness" scores in these two areas. Legal extensiveness ranged from 1.5 (in Bosnia Herzegovina and Georgia) to 4.0 (in Hungary and Poland).<sup>21</sup> Legal effectiveness ranged from 1.0 (in Bosnia Herzegovina) to 3.84 (in Hungary).

Besides the pace and type of reforms enacted, countries differ in various other policy dimensions. Openness to foreign trade has often been associated with lower corruption. To see if this was true among postcommunist countries, I constructed a measure of total trade in goods and services (exports plus imports) as a share of GDP (at market prices) as of 1997, using the World Bank's *World Development Indicators*. Total trade ranged from 35 percent of GDP in Georgia to 228 percent in Tajikistan. Finally, many have associated corruption with a more intrusive state. The BEEPS survey asked its business respondents "how frequently the state intervenes in investment, employment, sales, prices, mergers, dividends, and wages" (Hellman, Jones, Kaufmann, and Schankerman 2000, p.32). They could answer "always, mostly, frequently, sometimes, seldom, or never". Hellman et al. compile an index by counting the proportion that responded "frequently", "mostly", or "always" on each category, and then averaging across the seven categories. This index of state intervention ranged from 5.5 in Estonia to 33.2 in Belarus.

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<sup>19</sup> See EBRD (1999 pp.43-9). Although one might ideally hope to measure also reforms of public law, these are likely to correlate with those in commercial law. And since the types of corruption most often studied—including in this paper—are those that relate to businesses, the commercial focus is quite appropriate.

<sup>20</sup> The "extensiveness" of commercial law "assesses the extent to which commercial legal rules approach those of more developed countries regarding their impact on commercial transactions, such as secured lending, project finance, debt restructuring and the formation of joint-stock companies." The "effectiveness of commercial law" "assesses the extent to which such legal rules are clear and accessible and adequately implemented administratively and judicially". "Extensiveness" of financial law refers to "the extent to which banking and capital markets legal rules approach minimum international standards", while "effectiveness" refers to "the extent to which such legal rules are clear and the frequency with which regulators take corrective action against failing banks and against enterprises or individuals that violate securities laws" (EBRD 1999, p.43).

<sup>21</sup> In coding, I treat "+" as equivalent to +.33, and "-" as equivalent to -.33.

## 2.3 Results

Tables 4-7 show some of the patterns in the data. I present regressions with four dependent variables—the World Bank 2001 corruption index, “bribe burden”, “corruption obstacles”, and “frequency of state capture”. The first three were all published together with “standard errors” that measure the degree of reliability of each observation.<sup>22</sup> I use this additional information to weight more strongly in the regressions those cases that were observed with greater certainty: I run weighted least squares, weighting by the inverse of the “standard error”.

The results cast light on the relative role played by pre- and post-transition factors in determining current corruption levels. It turns out that most of the current variation can be predicted from data already available in 1989. About 87 percent of the variation in the World Bank corruption index can be explained by just the level of economic development in 1989, the number of years the state had been communist, the share of the population that was Protestant (as of 1980), and the size of natural resource endowments. These same four pre-transition factors predict about 64 percent of the variation in the bribe burden, and 62 percent of the variation in corruption obstacles.

In fact, this understates the degree to which pre-transition factors predict current corruption levels. If I also included dummies for region (Central Asia, Baltics, Balkans, Caucasus, Central Europe, excluded category: European FSU) in the model 1 regressions, the  $R^2$ 's went up to .92, .74, and .68 respectively (not shown). Other factors, measuring post-transition policies or developments were rarely significant, and made at best a modest contribution to explaining the corruption variation. The variation in state capture was less well predicted by pre-transition factors: it was not significantly related to income and the four pre-1989 factors could account for only 24 percent of the variation. However, adding the regional dummies raised this to 54 percent. Figure 2 shows the corruption scores predicted from the pre-transition factors plotted against the actual World Bank corruption scores.

The strongest and most robust determinant of corruption was the initial level of economic

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<sup>22</sup> As already noted, the World Bank corruption “standard errors” are actually a more complex measure estimating the reliability of the polls that went into constructing the given country’s estimate, rather than the variability of the ratings on just that country (see Kaufmann, Kraay, and Zoido-Lobaton 1999, 2002). The standard errors of the other variables measure the variation in responses to the given survey question in the given country.



development. PPP-adjusted GDP per capita as of 1989 ranged from \$629 in Albania to \$11,525 in Slovenia. The median country was Kazakhstan with \$4,133. Each additional thousand dollars in 1989 per capita GDP was associated with about .15 points less corruption on the World Bank's index (which ranged, among the postcommunist countries, from -1.12, for Turkmenistan, to 1.09, for Slovenia). Each thousand dollars was also associated with an average reported bribe burden some 0.3 to 0.5 percentage points lower, and about a 0.14 point lower average estimate of the extent to which corruption was an obstacle to business (on the 4-point scale).

A Protestant tradition was also significantly and robustly linked with lower perceived corruption, a lower bribe burden, and lower perceived corruption obstacles. Those postcommunist countries where Protestants constituted more than 5 percent were Estonia (66 percent), Hungary (22 percent), Latvia (14 percent), Slovakia (8 percent), and Romania (6 percent). Although significant and robust, the effect was relatively small. For every additional ten percent of the population Protestant, World Bank corruption was about .11 points lower, the burden of bribery was from .11 to .20 percentage points lower, and the percentage perceiving corruption to be an obstacle to business was some .08 percentage points higher.

The longer a country had been under communist rule, the greater was perceived corruption. In some models, this also correlated significantly with the bribe burden. The duration of communist rule was not clearly related to corruption obstacles.<sup>23</sup> However, if I controlled for region, the results reversed: the coefficients in the World Bank corruption and bribe burden regressions dropped and became insignificant, while that in the corruption obstacles regression doubled. The close correlation between geography and duration of communist rule makes it hard to separate the impact of the two.<sup>24</sup> The natural resource index was not usually significantly related to corruption by any of the measures.<sup>25</sup>

Some of the significant pre-transition factors might be picking up just distance from Western Europe. I tried including a variable for the number of miles from Duesseldorf.<sup>26</sup> The variable was not significant in any of the three corruption regressions, and marginally so (at  $p = .10$ ) in that for state

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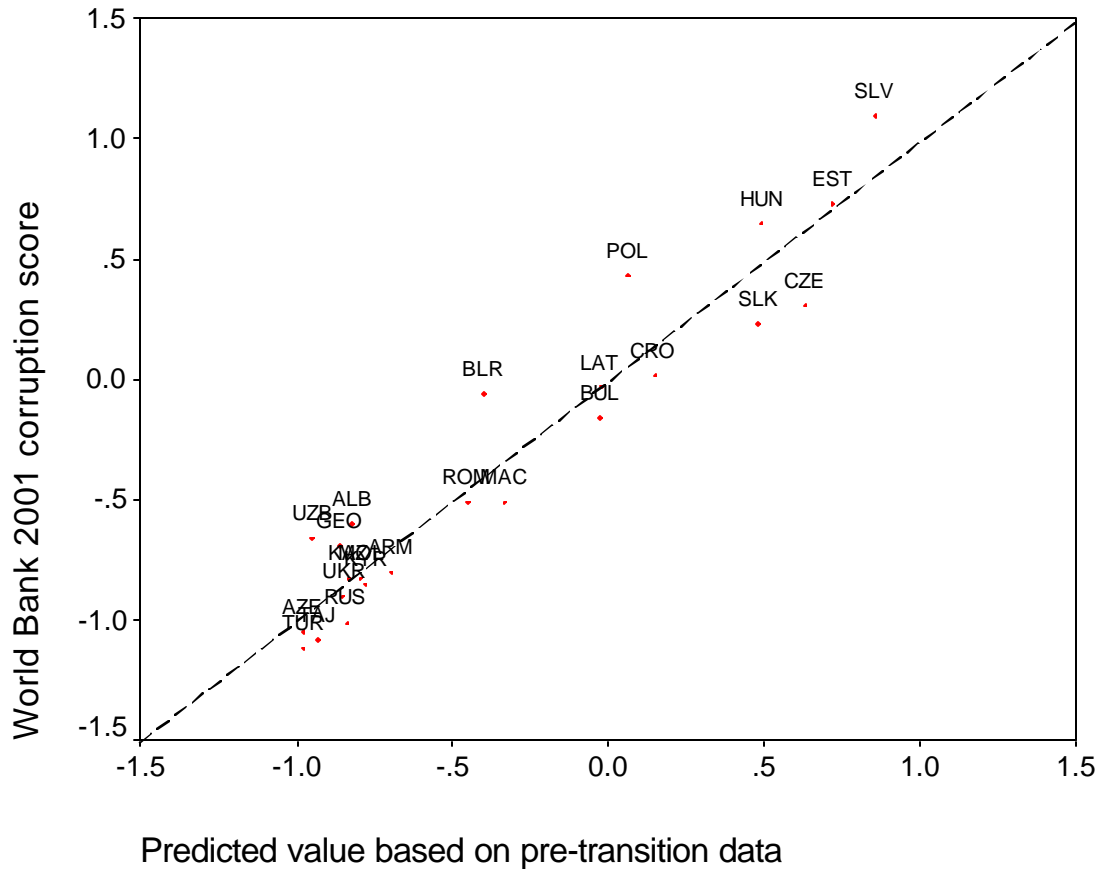
<sup>23</sup> In fact, its sign was negative and the coefficient was even significant in one regression (including only 19 cases).

<sup>24</sup> The correlation between years communist and distance from Duesseldorf was .72.

<sup>25</sup> Its coefficient was larger and almost significant in the World Bank corruption regression controlling for region.

<sup>26</sup> This was a variable previously used in Fischer and Sahay (2000).

Figure 2: Could current corruption levels be predicted from pre-transition characteristics?



capture. Including it made almost no difference at all to the significant variables in the corruption regressions. In the regression for state capture, it reduced the years communist variable to insignificance, cutting its coefficient by almost half. Thus, the effect of duration of communism on the frequency of state capture cannot be distinguished from simple geography. Also in the capture regression, the Protestant effect dropped slightly (from -.06 to -.05) and fell in significance (to  $p = .12$ ).

Certain political factors were occasionally significant. Perhaps surprisingly, there was no evidence that the extent of corruption was influenced by the degree of democracy in these countries. The Freedom House political rights index was never significant, and sometimes had the “wrong” sign. I also tried running regressions with Freedom House’s index of freedom of the press (averaged for 1994-9), to see if the controls on officials generated by press openness were a more effective restraint than electoral

competition. Again, there was no clear effect controlling for the pre-transition factors.<sup>27</sup> Nor was there any clear relationship between corruption and parliamentary regimes (model 3).

A marginally significant finding in Table 4 model 4 is that the greater the proportion of subnational government executives that are elected, the higher is corruption. Local electoral accountability appears not to restrain such officials. Perhaps the electoral competition itself creates opportunities and motivation for corruption; perhaps such officials take advantage of the lack of vertical discipline. Or perhaps the autonomy of governments at different levels leads to competitive predation. This result was echoed in the regressions for state capture: the more elected tiers of subnational government, the greater was the frequency with which businessmen reported buying legislative and regulatory decisions. Perhaps in countries with more tiers of government, there is just more to capture.

The number of years since the first non-communist chief executive took office was not significantly related to corruption. This may well just reflect the need to develop more precise indicators for elite turnover. Changing the chief executive is unlikely by itself to induce changes throughout the system; turnover at the top may not proxy well for turnover lower down. There were some intriguing hints that political instability increased corruption. Countries that had had a larger number of prime ministers tended to have higher World Bank perceived corruption. Prime ministerial turnover also correlated with frequency of state capture. In both cases, the causation might be reversed—more corrupt or captured prime ministers might be replaced more often—so inferences should be drawn cautiously.<sup>28</sup> Executive-parliament polarization was associated with higher World Bank corruption. Where the president faced a large, hostile bloc in parliament, government was perceived to be less honest, and the problem was greater the larger the hostile faction. The relationship with perceived corruption obstacles was almost significant ( $p < .11$ ).

The severity of the economic crisis—as measured by the total cumulative output drop—was significantly related to corruption on the World Bank index and to frequency of state capture. For every

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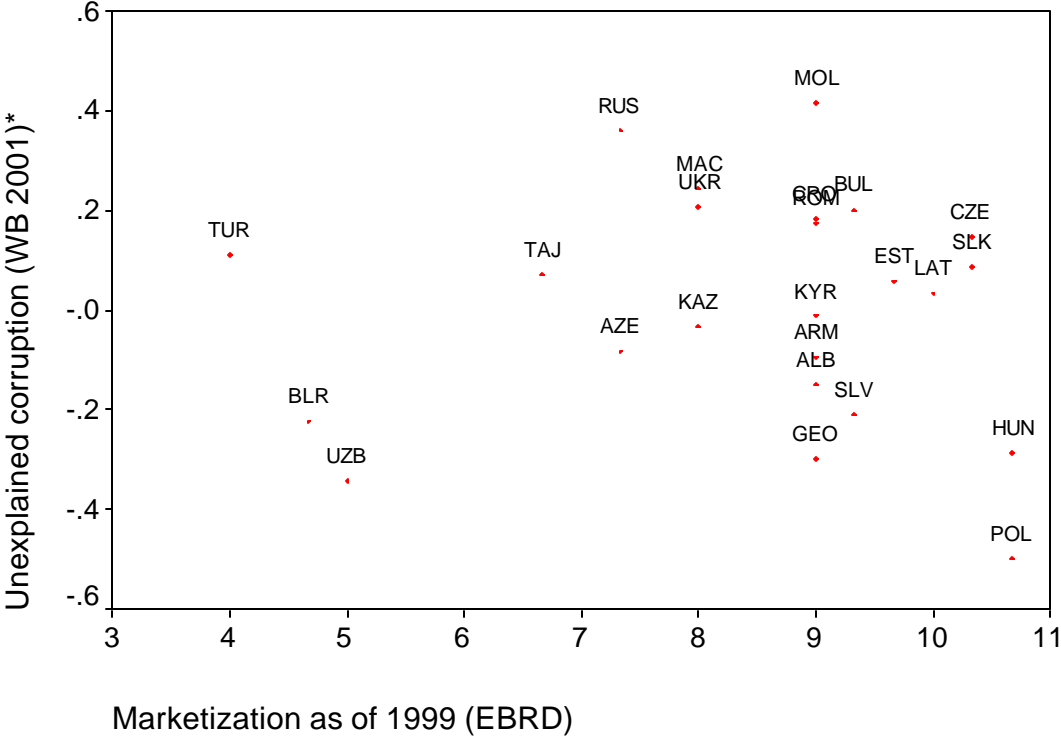
<sup>27</sup> However, Freedom House political rights scores were sometimes significantly related to the 1998 World Bank corruption index.

<sup>28</sup> It is also possible that political instability increase the frequency with which laws change—and therefore requires businesses to try to “capture” rule-changing decisions more often.

10 percentage points of 1989 GDP that the country's output dropped during the transition, corruption was almost .1 points higher and the frequency of state capture was .18 percentage points higher. These effects, while statistically significant, are not large. Still, accounting for the severity of economic crisis greatly increases the percentage of variation explained in the state capture regressions. Adding this variable increases the  $R^2$  (without any drop in the number of cases) from .24 to .53. One should nevertheless be cautious in interpreting these results because of possible reverse causation: it may well be that corruption or state capture exacerbated the economic crisis rather than the crisis inducing corruption or capture.

Neither legal reform, nor market reform, nor the perceived effectiveness of the legal system had

Figure 3: Unexplained corruption and market reform



\* unexplained by 1989 income, natural resources, Protestant tradition, and years communist

any clear impact on the level of corruption or state capture. My indicators might just fail to capture the concepts at issue. Still, there was no evidence to support the claim that rapid economic reform strategies or neglect of legal reform led to higher corruption. The data are tricky to read because of the presence of

several possible outliers. Figure 3 shows the residual variation in World Bank corruption not explained by 1989 income, years communist, natural resources, and Protestant tradition, plotted against the EBRD aggregate market reform index. (One would often get similar pictures using other corruption indicators.) Turkmenistan, Uzbekistan, and Belarus have surprisingly low corruption given that they lag far behind the other countries on market reform. Were these cases excluded, there would be a strong negative relationship between marketization and corruption. Some have argued that there is in fact a curvilinear relationship—a little reform is worse than none at all, but a lot is also good (EBRD 1999, chapter 6). If one squints a little at Figure 3 it is possible to see an inverted U, and one can get significant coefficients modeling a quadratic relationship with market reform. However, given the small number of data points, it is possible to get significant coefficients modeling a quadratic relationship with all sorts of things—democracy, fiscal decentralization, legal reform. The most significant such relationship I found was actually with legal effectiveness—suggesting, if believed, that no legal effectiveness is better than a little. A relatively safe conclusion is that there is no evidence that rapid market reform, rapid privatization, or slow legal reform increased corruption, and it is possible that market reform may even have helped.

Finally, I found no evidence that either greater exposure to foreign trade or greater state intervention (as reported by the BEEPS respondents) affected either corruption or state capture among these countries.<sup>29</sup> Although the coefficients on trade were never significant, their signs suggested if anything a positive relationship between trade exposure and corruption or state capture.

In the state capture regressions, all factors tended to be less significant. Economic development was not; Protestantism and duration of communist rule were less so. Among political and economic post-transition factors, results were similar to those in the World Bank corruption regressions: more elected tiers of government and prime ministerial turnover correlated with state capture. Severity of economic crisis also correlated with higher capture, although—again—one cannot be sure which way causation ran. In short, although some of the same influences that shaped patterns of corruption seem to be at work in determining the degree of state capture among postcommunist countries, much remains to be explained.

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<sup>29</sup> Since these were never significant, they are not shown in Tables 4-7 in order to save space.

### 3 Conclusions

The apparent epidemic of corruption that broke out after communist regimes collapsed in Eastern Europe and the Soviet Union prompted a great deal of concern and speculation. Data compiled from surveys of businesspeople helps to put this phenomenon in perspective and search for its causes. While such data are based on subjective perceptions, they are systematically gathered and aggregated, and based on a large number of responses from people likely to have direct experience of the phenomenon in question.

Keeping in mind the weaknesses of such data, several conclusions emerge. The higher average level of corruption in postcommunist countries seems to have little to do with postcommunism per se. Although these countries may be corrupt in distinctive ways, they are not corrupt for distinctive reasons. They have bad governments, largely because they are poor and lack a post-war history of democracy. Turkmenistan's government is corrupt for much the same reasons as Cameroon's; the main causes of Russia's corruption are the same as those of Paraguay's.<sup>30</sup> Any residual, postcommunist effect is small.

Among postcommunist countries, most current variation in corruption levels can be predicted from factors fixed as of the beginning of transition. Countries that were more economically developed as of 1989 and that had larger Protestant populations had significantly cleaner governments. A longer experience of communist rule may have left countries more corrupt, although this was hard to disentangle from other geographically correlated factors. Government instability, president-parliament polarization, and some kinds of decentralization may have exacerbated corruption. More severe economic crisis correlated with corruption and state capture, although the direction of causation is uncertain.

I could not find statistically significant evidence that greater democracy or foreign trade reduced corruption among these countries.<sup>31</sup> Measures of economic and legal reform were also not significant—in large part because of the surprisingly low reported corruption of several highly authoritarian and unreformed regimes, Turkmenistan, Belarus and Uzbekistan. If these three cases are excluded, a

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<sup>30</sup> Turkmenistan's per capita GNP in 1997—\$1,410—was close to that of Cameroon—\$1,770; both had no experience of democracy between 1950 and 1990. Russia's per capita GNP in 1997—\$4,280—was slightly higher than that of Paraguay—\$3,860; again, neither had experienced democracy during 1950-90.

<sup>31</sup> Although using the World Bank's 1998 corruption index, democracy did appear associated with lower corruption.

significant negative relationship appears between market reform and corruption or state capture.<sup>32</sup> Some have interpreted this as evidence that partial reform is worse than none at all; given the weakness of the data and the possibility of other interpretations, I remain agnostic. In any case, there was no significant evidence that rapid economic reform led to worse government performance overall, or that more extensive or effective reforms of commercial law reduced corruption.

Although the main significant variables do an excellent job of accounting for the variation in corruption,<sup>33</sup> they do not explain all puzzling aspects of transition. The four pre-transition variables (1989 per capita GNP, years communist, natural resources, Protestantism) explain about 97 percent of the 1.85 point (World Bank) corruption gap between Turkmenistan and Estonia.<sup>34</sup> But these variables explain only about 40 percent of the gap between Russia and Poland. Adding in prime ministerial turnover and parliament-executive polarization, 76 percent of the gap is explained. Russia's greater political decentralization explains another 8 percent, and the less severe economic crisis in Poland 6 percent. Some variation remains. More work is also needed to pin down what certain variables are capturing.

Overall, the results suggest that discussions of postcommunist government failures may have focused too much on idiosyncratic features of the transition years and too little on underlying factors that explain corruption worldwide. Postcommunist countries are corrupt, primarily, because they are poor, and the poorest among them are the most corrupt. Their undemocratic history also depresses government quality, and different speeds of democratic development since 1989 do not seem yet to have made much difference. Cultural factors such as religion play a role here as they do elsewhere. To the extent that the politics or economics of the transition years matter, it is political conditions—instability, polarization—and the severity of economic crisis that seem to explain more than policy choices. This is not to absolve individual leaders of responsibility or to embrace an excessive fatalism. But the choices leaders made and the effectiveness of their attempts to improve government were apparently quite strongly constrained by characteristics of the countries they led and the conditions they inherited.

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<sup>32</sup> No relationship appears with legal reform, even dropping these cases.

<sup>33</sup> Though not in state capture.

<sup>34</sup> That is, the difference between the predicted values is 97 percent of the difference between actual values.

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Table 4: World Bank Index (2001) in Postcommunist Countries, higher values signify *less* corrupt

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<b>Initial conditions</b>	1989 GNP per capita, PPP	.15*** (.02)	.15*** (.03)	.15*** (.03)	.13*** (.03)	.16*** (.03)	.09*** (.03)	.12*** (.03)	.12*** (.02)	.15*** (.02)	.15*** (.03)	.15*** (.03)	.14*** (.03)
	Years communist	-.014** (.005)	-.014** (.006)	-.014** (.006)	-.012** (.005)	-.015** (.006)	-.012 (.007)	-.013*** (.004)	-.009* (.004)	-.013** (.005)	-.013** (.005)	-.016*** (.006)	-.012** (.004)
	Natural resources	-.11 (.09)	-.11 (.10)	-.11 (.09)	-.12 (.09)	-.09 (.09)	-.03 (.14)	-.12 (.07)	-.16* (.08)	-.11 (.09)	-.12 (.09)	-.10 (.11)	-.12 (.11)
	Percent Protestant (1980)	.011*** (.002)	.011*** (.002)	.011*** (.002)	.009*** (.003)	.011*** (.002)	.011*** (.002)	.010*** (.002)	.012*** (.002)	.011*** (.002)	.011*** (.002)	.012*** (.003)	.011*** (.003)
<b>Political institutions</b>	Political rights average 1991-9		-.00 (.07)	.01 (.08)	-.11 (.08)	.04 (.07)	-.08 (.06)	-.05 (.05)					
	Parliamentary system 1997			.10 (.18)									
	Subnational tiers of government				-.13 (.10)								
	Proportion of sub-tiers elected				-.004* (.002)								
<b>Political conditions</b>	Years since exec. turnover					.02 (.02)							
	Number of prime ministers 1990-99						-.07** (.03)						
	Executive-parliament polarization							-.018*** (.006)					
<b>Economic conditions</b>	Lowest annual GDP (% of 1989 level)								.009** (.004)				
<b>Economic reform</b>	Market reform (EBRD)									.02 (.05)			
	Privatization (EBRD)										.02 (.04)		
<b>Legal reform</b>	Extensiveness of legal reform											-.09 (.13)	
	Effectiveness of legal reform												.07 (.11)
	Constant	-.21 (.37)	-.21 (.40)	-.28 (.57)	.63 (.60)	-.46 (.41)	.75 (.45)	.22 (.44)	-.88** (.38)	-.42 (.59)	-.47 (.54)	.19 (.52)	-.47 (.38)
	R <sup>2</sup>	.87	.87	.88	.91	.89	.88	.93	.90	.87	.87	.86	.86
	N	24	24	23	21	23	19	24	24	24	24	22	22

WLS, weighting by inverse of “standard error”. White heteroskedasticity-corrected standard errors.

Table 5: Burden of Bribery (BEEPS) in Postcommunist Countries

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<b>Initial conditions</b>	1989 GNP per capita, PPP	-.32** (.12)	-.36** (.14)	-.36** (.14)	-.38** (.16)	-.38** (.15)	-.38** (.14)	-.37** (.14)	-.31** (.12)	-.28** (.11)	-.34** (.12)	-.32** (.13)	-.33** (.12)
	Years communist	.03 (.02)	.04* (.02)	.04* (.02)	.05* (.03)	.04* (.02)	.03 (.03)	.05* (.02)	.03 (.03)	.06** (.02)	.05** (.02)	.03 (.02)	.04 (.03)
	Natural resources	-.07 (.36)	-.11 (.36)	-.01 (.39)	-.26 (.41)	-.19 (.45)	.20 (.46)	-.12 (.36)	-.05 (.41)	-.12 (.31)	-.21 (.33)	-.06 (.35)	-.13 (.33)
	Percent Protestant (1980)	-.011* (.006)	-.014** (.006)	-.018** (.008)	-.018** (.008)	-.014** (.006)	-.011 (.007)	-.014** (.006)	-.011* (.006)	.015** (.006)	-.019** (.008)	-.011* (.006)	-.015* (.008)
<b>Political institutions</b>	Political rights average 1991-9		-.16 (.21)	-.04 (.22)	-.37 (.24)	-.19 (.24)	-.18 (.24)	-.18 (.22)					
	Parliamentary system 1997			.66 (.83)									
	Subnational tiers of government				-.37 (.47)								
	Proportion of sub-tiers elected				-.003 (.008)								
<b>Political conditions</b>	Years since exec. Turnover					-.03 (.07)							
	Number of prime ministers 1990-99						-.09 (.12)						
	Executive-parliament polarization							-.02 (.02)					
<b>Economic conditions</b>	Lowest annual GDP (% of 1989 level)								-.00 (.02)				
<b>Economic reform</b>	Market reform (EBRD)									.28 (.22)			
	Privatization (EBRD)										.21 (.18)		
<b>Legal reform</b>	Extensiveness of legal reform											-.05 (.39)	
	Effectiveness of legal reform												.30 (.53)
	Constant	2.67* (1.47)	2.86* (1.61)	2.13 (1.75)	3.91 (2.21)	3.45 (2.09)	3.93* (1.86)	3.02 (1.77)	2.92 (2.30)	-1.44 (3.20)	-.12 (2.68)	2.88 (1.67)	1.36 (2.59)
	R <sup>2</sup>	.64	.66	.67	.63	.66	.63	.67	.64	.68	.68	.64	.65
	N	21	21	21	18	21	19	21	21	21	21	21	21

WLS, weighting by inverse of standard error, White heteroskedasticity-corrected standard errors.

Table 6: Corruption perceived as an obstacle to business (BEEPS) in Postcommunist Countries

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<b>Initial conditions</b>	1989 GNP per capita, PPP	-.14*** (.02)	-.14*** (.03)	-.15*** (.04)	-.16*** (.04)	-.14*** (.03)	-.08* (.04)	-.13** (.05)	-.12*** (.02)	-.14*** (.02)	-.15*** (.03)	-.14*** (.03)	-.13*** (.04)
	Years communist	-.009 (.008)	-.008 (.011)	-.010 (.010)	-.002 (.010)	-.008 (.011)	-.02** (.01)	-.01 (.01)	-.01 (.01)	-.005 (.014)	-.006 (.011)	-.010 (.012)	-.012 (.013)
	Natural resources	.07 (.16)	.07 (.17)	.06 (.20)	-.02 (.15)	.08 (.17)	.14 (.17)	.07 (.16)	.10 (.18)	.07 (.17)	.05 (.18)	.08 (.19)	.09 (.19)
	Percent Protestant (1980)	-.008*** (.003)	-.008** (.003)	-.008*** (.002)	-.009** (.003)	-.008** (.003)	-.007** (.002)	-.008*** (.002)	-.009*** (.002)	-.009** (.003)	-.010** (.004)	-.008** (.003)	-.007 (.004)
<b>Political institutions</b>	Political rights average 1991-9		-.01 (.09)	-.02 (.11)	.02 (.12)	-.00 (.09)	.11 (.07)	.02 (.09)					
	Parliamentary system 1997			-.09 (.28)									
	Subnational tiers of government				-.04 (.16)								
	Proportion of sub-tiers elected				-.000 (.002)								
<b>Political conditions</b>	Years since exec. Turnover					.00 (.02)							
	Number of prime ministers 1990-99						.05 (.05)						
	Executive-parliament polarization							.013 (.007)					
<b>Economic conditions</b>	Lowest annual GDP (% of 1989 level)								-.006 (.005)				
<b>Economic reform</b>	Market reform (EBRD)									.05 (.09)			
	Privatization (EBRD)										.05 (.06)		
<b>Legal reform</b>	Extensiveness of legal reform											-.05 (.20)	
	Effectiveness of legal reform												-.11 (.23)
	Constant	3.67*** (.34)	3.68*** (.36)	3.83*** (.57)	3.56*** (.72)	3.64*** (.42)	3.15*** (.62)	3.44*** (.40)	4.19*** (.55)	3.02** (1.38)	3.13*** (.91)	3.88*** (.97)	4.07*** (.97)
	R <sup>2</sup>	.62	.62	.62	.80	.62	.75	.68	.65	.63	.63	.62	.63
	N	21	21	21	18	21	19	21	21	21	21	21	21

WLS, weighting by inverse of standard error, White heteroskedasticity-corrected standard errors.

Table 7: State Capture (BEEPS) in Postcommunist Countries

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<b>Initial conditions</b>	1989 GNP per capita, PPP	-.40 (.28)	-.52 (.32)	-.50 (.35)	-.37 (.34)	-.41 (.42)	.67 (.57)	-.36 (.40)	.14 (.19)	-.34 (.28)	-.33 (.35)	-.42 (.30)	-.25 (.36)
	Years communist	-.15** (.06)	-.12* (.07)	-.10 (.07)	-.08 (.08)	-.12 (.07)	-.21* (.10)	-.13* (.07)	-.26*** (.05)	-.08 (.06)	-.19** (.07)	-.14*** (.05)	-.21** (.08)
	Natural resources	2.66 (2.03)	2.71 (2.08)	2.97 (2.41)	.64 (.95)	2.98 (2.69)	2.21 (2.65)	2.82 (2.21)	3.65* (1.89)	2.64 (2.13)	2.92 (2.17)	2.63 (2.06)	2.89 (2.06)
	Percent Protestant (1980)	-.060** (.026)	-.067* (.033)	-.080** (.027)	-.063** (.026)	-.068* (.035)	-.050 (.039)	-.061** (.028)	-.063*** (.019)	-.072** (.030)	-.038 (.040)	-.062** (.026)	-.034 (.040)
<b>Political institutions</b>	Political rights average 1991-9		-.51 (1.22)	-.27 (1.62)	-.10 (.73)	-.30 (1.40)	1.71 (1.46)	-.30 (1.10)					
	Parliamentary system 1997			2.15 (3.98)									
	Subnational tiers of government				.63 (1.32)								
	Proportion of sub-tiers elected				.036* (.017)								
<b>Political conditions</b>	Years since exec. turnover					.16 (.44)							
	Number of prime ministers 1990-99						1.26** (.54)						
	Executive-parliament polarization							.12 (.09)					
<b>Economic conditions</b>	Lowest annual GDP (% of 1989 level)								-.18*** (.06)				
<b>Economic reform</b>	Market reform (EBRD)									.83 (.78)			
	Privatization (EBRD)										-.60 (.94)		
<b>Legal reform</b>	Extensiveness of legal reform											.23 (1.27)	
	Effectiveness of legal reform												-2.03 (2.34)
	Constant	18.91*** (3.59)	19.44*** (4.22)	16.20* (8.19)	12.33** (5.27)	17.35** (6.93)	2.15 (6.44)	16.87*** (5.32)	33.24*** (5.67)	7.58 (10.10)	26.11** (9.84)	17.95*** (4.61)	26.32** (9.00)
	R <sup>2</sup>	.24	.25	.26	.48	.26	.43	.29	.53	.27	.26	.24	.28
	N	21	21	21	18	21	19	21	21	21	21	21	21

OLS, White heteroskedasticity-corrected standard errors.