International Handbook on the Economics of Corruption

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## Contents

**List of contributors**
Susan Rose-Ackerman vii

**Introduction and overview**
Susan Rose-Ackerman xiv

### PART I  CORRUPTION AND POOR GOVERNANCE AROUND THE WORLD

1. Causes and consequences of corruption: What do we know from a cross-section of countries?
   *Johann Graf Lambsdorff*
   3

2. Measuring governance using cross-country perceptions data
   *Daniel Kaufmann, Aart Kraay and Massimo Mastruzzi*
   52

3. Measuring institutions
   *Christopher Woodruff*
   105

### PART II  CORRUPTION AND INSTITUTIONAL STRUCTURE

4. Bargaining for bribes: the role of institutions
   *Ray Fisman and Roberta Gatti*
   127

5. Democratic institutions and corruption: incentives and constraints in politics
   *Jana Kunesová*
   140

6. Decentralization, corruption and government accountability
   *Pranab Bardhan and Dilip Mookherjee*
   161

7. Corruption, hierarchies and bureaucratic structure
   *Ajit Mishra*
   189

8. Determinants of corruption in developing countries: the limits of conventional economic analysis
   *Mushtaq H. Khan*
   216

### PART III  CORRUPTION IN THE TRANSITION FROM SOCIALISM

9. The effectiveness of anti-corruption programs: preliminary evidence from the post-communist transition countries
   *Alan Rousso and Franklin Steves*
   247
vi International handbook on the economics of corruption

10 Corruption in China and Russia compared: different legacies of central planning  
   Jens Andvig  

PART IV SURVEYS AND EXPERIMENTS

11 Why are some public officials more corrupt than others?  
   Jennifer Hunt  

12 Corruption and the demand for regulating capitalists  
   Rafael Di Tella and Robert MacCulloch  

13 Corruption in international business transactions: the perspective of Norwegian firms  
   Tina Soreide  

14 Laboratory experiments on corruption  
   Klaus Abbink  

PART V SECTORAL ANTI-CORRUPTION POLICIES

15 How corruption affects service delivery and what can be done about it  
   Ritva Reinikka and Jakob Svensson  

16 Corruption and the management of public works in Italy  
   Miriam Golden and Lucio Picci  

17 Corruption in tax administration: lessons from institutional reforms in Uganda  
   Odd-Helge Fjeldstad  

18 The economics of anti-corruption: lessons from a widespread customs reform  
   Dean Yang  

19 Prescription for abuse? Pharmaceutical selection in Bulgarian healthcare  
   Patrick Meagher  

Name index  
Subject index
12 Corruption and the demand for regulating capitalists

Rafael Di Tella and Robert MacCulloch*

Economists have long emphasized the costs of corruption (Myrdal 1968; Rose-Ackerman 1978). In an important paper, Mauro (1995) provided evidence that subjective measures of corruption (prepared in the construction of country risk indices) were negatively correlated with measures of investment over GDP and GDP growth. Much work since then has studied the reasons for such a connection. For example, Mauro (1998) has argued that corruption biases public investment towards physical capital (where bribes are easier to collect) and against human capital (such as education). In a similar spirit, Banerjee (1997) and Ades and Di Tella (1997) argue that corruption introduces a ‘leak’ in public policy rendering it less effective. Acemoglu and Verdier (2000) show that this point still holds even in a more complete model where agent’s contracts are adjusted optimally (see Reinikka and Svensson (2004) for evidence on this). A different type of cost is emphasized by Djankov et al. (2002) in their work on the regulation of entry: corrupt entrepreneurs create regulations that allow them to extract rents from society in general.

A different view is that corruption affects political outcomes, including political legitimacy (della Porta 2000; Seligson 2002). Within this approach, Di Tella and MacCulloch (2002) emphasize that corruption reduces commercial legitimacy by undermining people’s faith in capitalism. Starting with Thomas Piketty (1995) economists have understood the critical role of beliefs in shaping economic organization (see also Denzau and North 1993; Alesina and Angeletos 2002; Benabou and Tirole 2002; for evidence see Hochschild 1981 and Alesina et al. 2002). In fact, Piketty shows that two otherwise identical societies can adopt very different forms of organization (like Europe and America) if they start accidentally with different beliefs. The idea is that people with a particular belief (say that effort pays) will vote for policies and institutions (like low taxes) that will reinforce that original belief. Di Tella and MacCulloch (2002) show that the existence of corruption can play a similar role if people have non-conventional (altruistic) preferences. If corruption offends citizens they may vote for interventions and high taxes even if that is costly to them, just as in the ultimatum game they are willing to ‘burn’ money to obtain ‘fair’ outcomes. The interesting point
Corruption and the demand for regulating capitalists

is that high taxes, in turn, make it more likely that capitalists engage in corruption, opening up the possibility of multiple equilibria as in Andvig and Moene (1990) and Piketty (1995). They also present some evidence from the World Values Survey consistent with the hypothesis that concern about corruption is connected with people being on the left of the political spectrum and desiring more intervention. Note that this evidence is inconsistent with the standard view in economics whereby regulations cause corruption. Indeed, Djankov et al. (2002) show that countries with more regulation have more corruption. Given that, within countries, those individuals that observe more corruption also want more intervention, the idea that regulation is introduced by corrupt insiders to the industry (as argued by Djankov et al.) is implausible.

In this chapter, we propose a model of a democratic state where the observation of corruption leads people to demand that elected leaders socialize production (or, more generally, take actions that reduce the profits of the capitalists), but where all preferences are standard (that is, there is no altruism and individuals care only about their material payoffs). The idea is that initially people are indifferent between socialism and capitalism. They then observe corruption and update their beliefs concerning how productive capitalists actually are. If capitalists are really productive, they would not waste their time bribing the government in return for favors. We also study the available evidence, going beyond the findings in Di Tella and MacCulloch (2002) in several ways. First, we study the correlation between perceptions of corruption and demand for regulation (or more broadly, left-wing ideology) in a new dataset (using data from the Latinobarómetro) as well as running separate regressions for each of the individual countries (rather than just for the aggregate sample) (see also Di Tella and MacCulloch 2005). Second, the dependent variables used include not only the extent to which individuals are on the left of the political spectrum, but also whether they think that the distribution of income is unfair and whether the privatization of state-owned enterprises was beneficial to their country. Replicating our results this way goes a long way towards establishing the robustness of the link between perceptions of corruption and ideology.

One ambiguity of these correlations is that it is possible that worrying about corruption is a trait of left-wingers. In other words, left-wingers may just happen to see corruption everywhere. Then, the correlation we uncover may reflect causality going from an omitted trait (being a left-winger) to expressions of such ideology. Of course, this would not affect our conclusion that more corruption affects the political equilibrium because it would give more salience to left-wing parties (and make them more successful in political debates). But it would change the interpretation somewhat. In order to study this further we use new data on whether individuals (or their
relatives) have experienced an act of corruption. Because asking about people's involvement in such an act may be incriminating, the question asks respondents whether they have known of an act of corruption in the last 12 months. Of course, the wording of the question is not perfect as it is still possible to interpret the question as asking about whether the individual has read about corruption (although the question is immediately preceded by the question 'Have you or a relative of yours been the victim of a crime in the last twelve months?', which makes the experience interpretation more salient). One definite (and important) advantage of this question is that it allows us to go beyond correlations between opinions and instead study the correlation between an opinion (how intense are left-wing beliefs) and experience with corruption (directly, through a relative or, in the weaker interpretation, through the act of reading about it). Finally, we take this approach further and study the correlation of beliefs with accounting measures of firm performance, such as earnings before interest, taxes and depreciation (EBITDA). The idea is that in countries where corruption is high, and capitalism is illegitimate, firms have to earn higher profits out of which they can make their bribe and tax payments to bureaucrats. In these countries we also expect people to hold beliefs contrary to capitalism.

The chapter is organized as follows. First, we present a theoretical model that illustrates the main points in the connection between ideology and corruption when preferences are standard (that is, non-altruistic). Then we present the basic evidence using the Latinobarómetro dataset and go on to briefly present the correlations between beliefs and accounting measures of firm performance.

1. Theory: corruption and beliefs about the productivity of capitalism

In this section we present a model where actions reveal productivities. Capitalism and socialism are assumed to provide equal expected returns to voters, but there is uncertainty regarding productivity levels under both systems. The observation of deviant behavior (corruption or crime) under capitalism reveals information about individual productivity. The case of crime is straightforward: when voters see other people engaged in crime they may doubt that the 'American dream' that hard work can bring success holds in their country. They then update their beliefs accordingly. Observing other people's actions is a substitute for experimenting (Piketty 1995). The corruption case is somewhat more difficult because we have to analyze how people interpret corruption under socialism. In a democratic capitalist system, voters' beliefs concerning firm productivity are updated (downward) when firms are observed to corrupt public officials rather than engage in productive activity. In a fuller model we would need to distinguish between corruption in the form of monetary payoffs to officials and
Corruption and the demand for regulating capitalists

lobbying. Here the two types of activity are treated as identical. Both have moral costs, and both are used to provide firms with benefits from the state that substitute for productive activity. In other words, if the government responds to the rent seeking activities of firms the result is always harmful to individual voters. In interpreting our empirical work, we contrast this model with one where firms use bribes to avoid inefficient rules imposed by rent seeking officials – the ‘toll booth’ model.

In a democratic socialist system, by contrast, the observation of corruption does not reveal information about socialist productivity (just about the officials implementing it). The reason is that the dimension over which there is asymmetric information (that is, productivity levels) in the two economic systems can be appropriated under capitalism but not under socialism. By this we mean that under socialism in our model there is uncertainty about the value of an externality that the agent cannot capture by underreporting. In other words, the firm is not the legal residual claimant of the externality that it produces under socialism so there is no monetary incentive for anybody to exchange bribes for favors to the firm (and the incentives that exist for individuals to obtain bribes are only weakly related to firm productivity). If officials can be changed more easily than can the productivity of private sector firms, then democratic socialism provides voters with higher expected returns since corruption exposes (long-run) low productivity under capitalism but not under socialism. The desire to remain in power may limit the corruption of officials. There may also be a negative externality in the sense that corruption by bad entrepreneurs reduces the returns to all entrepreneurs.

Preferences
The economy consists of a large number (continuum) of individuals with preferences over income, y. Whenever they engage in corrupt activities they incur a moral cost \( m \), which is private information. This cost is distributed with cumulative function \( F(m) \).

Government
The population of individuals pay a lump-sum tax that produces a government budget of \( R \). In the absence of corruption this sum finances a pure public good such as national defense expenditures. In addition, under socialism the government can order the production of other public goods as specified below, but tax revenues are not used for this purpose.

Technology
One individual is chosen as the manager to run a single firm, and the rest are employed as workers. The workers are uncertain about the
level of productivity of the firm. Under capitalism, the firm has to choose whether to produce private goods or public goods. The productivity of the firm producing private goods can be either high or low, \( p \in \{ l, h \} \). The \textit{ex ante} probability that productivity is \( p \) is given by \( q \).

When producing public goods, the firm has productivity \( s + e \), where \( s \) can be appropriated by the firm and \( e \) is an externality that can be insignificant or big, \( e \in \{ l, h \} \). The \textit{ex ante} probability that the externality is \( e \) is given by \( q' \).

Under socialism the firm is ordered to produce the public good. Assume that \( s < l \) and that \( s + b > l \). In other words, the firm never chooses voluntarily to produce the public good, and private good production is less valuable than social good production when the firm has low productivity, at least in the case of big externalities. This is a critical assumption that permits us to consider a benchmark situation where capitalism and socialism are on a par in the absence of corruption.

\textit{Contracts and information}

The manager of the private firm can corrupt the government or produce. When the manager chooses to produce, he/she obtains \( ap \) and the remainder is distributed to the workers. As an alternative he/she can corruptly obtain \( R/2 - m \).

Assume that some workers remember last-period income (that is, are informed) and some do not remember anything (that is, are uninformed), and care only about the present. This is without loss of generality.

\textit{Timing}

At the start of each period, workers vote to choose the system of production (the single manager's vote is irrelevant). The firm's manager then chooses either to produce or to engage in corruption of the government, and payoffs are made.

\textit{Results 1: capitalism in practice} Under capitalism, a manager for whom moral costs are lower than \( m^p = R/2 - ap \), for \( p \in \{ l, h \} \), prefers to abandon production and seek corrupt benefits from the government. In that case, voters are left with 0 to consume. Otherwise they get \( (1 - \alpha)p \).

Thus, voters experience one of three levels of income (outcomes), 0 or \((1 - \alpha)l\) or \((1 - \alpha)h\). The last two fully reveal the level of \( p \). They also know that the firm would never try out public good production voluntarily. Thus, when zero income is experienced, voters know with certainty that the manager was corrupt. Using the Bayes rule, voters estimate the probability that the firm has productivity \( p \) in the production of private goods as:
\[ z(p_{\text{corrupt}}) = F(m^p) \frac{q^p}{q^p F(m^p) + q^l F(m^l)} \]  

(12.1)

Thus, \( z(h_{\text{corrupt}}) < q^h \).

**Results 2: socialism in practice**

Under socialism, the firm is ordered to engage in public good production. A manager for whom moral costs are lower than \( m^l = R/2 - \alpha s \) prefers to abandon production and corruptly influence the government. In that case, voters are left with 0 to consume. Otherwise they get \((1 - \alpha) s + e\).

Thus, voters experience one of three levels of income (outcomes), 0 or \((1 - \alpha) s + b\) or \((1 - \alpha) s + i\). The last two are fully revealing concerning the level of \( e \). When zero income is experienced, voters know that the manager was corrupt with certainty, so the fact that it has \( m < m^l \) is fully revealed. Voters estimate the probability that the firm has productivity \( s + e \) in the production of public goods as \( g^e \).

**Results 3: voter strategy**

Uninformed voters maintain their priors concerning productivity levels in the two economic systems. Expected income under capitalism is given by:

\[ q^h [1 - F(m^p)] (1 - \alpha) h + q^l [1 - F(m^l)] (1 - \alpha) l. \]  

(12.2)

Expected income under socialism is given by:

\[ ER(S) = g^h [1 - F(m^p)] [(1 - \alpha) s + b] + g^l [1 - F(m^l)] [(1 - \alpha) s + i]. \]  

(12.3)

It is assumed that they are equal so there is no reason for the uninformed voter to lean in any particular way ideologically.

Informed voters remember the last period’s outcome. When they experience anything different from zero income, they know the productivity levels under either production system. If the manager is honest, they can be certain to achieve the corresponding levels of income. For example, income when the manager is honest and productivity is high is \((1 - \alpha) h\), which can be assumed to be equal to \((1 - \alpha) s + b\), so the worker is equally well off under a highly productive capitalist system as under a highly productive socialist system.

When the informed experience zero income under capitalism they know that they can expect to get:

\[ z(h_{\text{corrupt}}) [1 - F(m^p)] (1 - \alpha) h + z(l_{\text{corrupt}}) [1 - F(m^l)] (1 - \alpha) l. \]  

(12.4)
When the informed experience zero income under socialism they know that they can expect to get:

\[ g[1 - F(m')] [(1 - \alpha) s + b] + g'[1 - F(m')] [(1 - \alpha) s + b]. \]  

(12.5)

Assume that there is a democratic polity in which a right-wing party implements the capitalist system if it controls the government and a left-wing party implements the socialist system. The following results can be established:

**Proposition 1**

1. The probability of voting for the right-wing party is lower when corruption is observed in a capitalist system compared with the case where voters have no information on corruption.
2. The effect of observing corruption on voting behavior is larger for the observation of corruption in a capitalist system than for the observation of corruption in a socialist system.
3. If the right-wing party credibly promises to control corruption its appeal may still be lower than that of the left-wing party.

**Proof**

To see (1), check that (12.4) < (12.2).

To see (2), which stems from the assumption that the dimension over which there is asymmetric information (that is, productivity levels) in the two economic systems can be captured by the agent under capitalism but not under socialism, check that (12.4) < (12.2) whereas (12.3) = (12.5).

To see (3), note that expected income under a capitalist system after observing corruption and after a (credible) promise to control corruption is given by:

\[ z(l_{\text{corrupt}} (1 - \alpha) h + z(l_{\text{corrupt}} (1 - \alpha) l. \]  

(12.6)

Consider the limiting case of low productivity. Calculating the difference in expected income under a left-wing party versus (12.6) and taking limits, we have:

\[ ER(S) - \lim_{x(l_{\text{corrupt}}) \to 0} [z(l_{\text{corrupt}} (1 - \alpha) h + z(l_{\text{corrupt}} (1 - \alpha) l] > 0. \]  

(12.7)
Discussion
We can also consider how extending the model to the case of many different firms may introduce a negative externality from corrupt firms to highly productive firms. To see this, note that the structure of information assumed is also formally identical to assuming that at any point in time both high and low productivity managers coexist, in the ratio $q^h:q^l$ (prior to updating). That is, equation (12.2) stays unchanged but one must reinterpret the probability weights as proportions of high- and low-productivity firms. Now simply note that part 1 of the proposition and $s < h$ means that profits of a highly productive firm are lower after the observation of corruption if the voters decide to abandon capitalism.6

The model highlights one possible channel through which the observation of corruption reduces the appeal of capitalism. It emphasizes the fact that disclosure of lobbying and corruption efforts by the firm reveal information about its production possibilities. More precisely, the fact that a firm prefers to ignore production and concentrate on making payoffs, together with information on the size of the potential gains from corruption and the distribution of moral costs in society, allows voters to update (down) their prior beliefs concerning the productivity of a capitalist system. This is true even if we assume that $s < i$, so that corruption is always higher under socialism.

Corruption is assumed to reduce voter welfare under both capitalism and socialism. Welfare would be higher under both systems if corruption were to be controlled. The model, however, shows that corruption may be more harmful for the electoral prospects of capitalism than for socialism. This is appealing because it predicts that, on average, in places where there is widespread corruption (for example, the third world) capitalism will be less popular with voters. This is the result of assuming an asymmetry in the setup. The dimension over which there is asymmetric information (productivity levels) in the two economic systems can be captured (as a sum of money) in capitalism but not in socialism. Since the externality, $e$, does not affect managerial actions in socialism, observing corruption tells us nothing about whether the externality is high or low.

This asymmetry is connected to two types of phenomena. First, it captures the idea that corruption in a capitalist economy reflects something about the technology whereas corruption under socialism reflects something about people who work for the state. Under capitalism, observing corruption reveals low productivity; whereas under socialism, the only information content is that an official has accepted a bribe from a firm. Firms, their technology and their corporate culture, seem to be quasi-permanent features, with very slow patterns of change. People who work in politics can be changed in elections. Thus, parties can always claim that
they represent change, that *this time* they will bring honesty and integrity to the public sector.

Second, the asymmetry built into the model is connected to the idea that capitalist economies differ in the degree to which the productivity of private firms is connected over time. The productivity of large family firms can be expected to have a higher degree of persistence than managerial firms where shareholders can easily get rid of underperforming managers.\(^8\) Compare a corruption scandal in a US corporation with a corruption scandal in a family-owned conglomerate in a Latin American country. After the scandal erupts and if management is changed in both cases, the new manager of the US corporation may have an easier time arguing that it is now a highly productive firm than the family conglomerate.

Private sector performance can also be expected to be more serially correlated than public sector performance because incentive contracts are more prevalent in the private sector. Thus, one would expect that the behavior of managers is unlikely to change if the circumstances were similar because they are income maximizers. Thus, a promise of change is not really credible if the way incentives are provided does not change also. Of course, the right-wing party can promise to reduce the size of government (reduce $R$ in our model) so the temptation to engage in corruption would fall. But the one receiving the proceeds from corruption is the (right-wing) politician, so this is not necessarily credible (although the model does not explicitly include this fact). And, as part 3 of the proposition shows, productivity levels have already been revealed.

2. **Empirical results on the connection between corruption and beliefs**

*Data source*

We follow the approach in Di Tella and MacCulloch (2002, 2005) and use survey data to address the main questions of interest.\(^9\) In particular, the data come from the Latinobarómetro, an annual survey of public opinion in 18 countries in Latin America (very much in the spirit of the World Values Survey (1981–2002)). Topics covered rotate each year, so the number of waves (and thus our sample size) changes depending on the question being studied. The largest coverage in years is 1995–2002. It is produced by Latinobarómetro Corporation, a non-profit non-governmental organization (NGO) based in Santiago, Chile. A number of aspects of the survey are less than ideal, including slight changes in the wording of some questions and in the order in which they appear from year to year, a large number of questions that adds to the length of the interview, and the fact that there are a few cases of more than one question that refer to the same concept. However, the overall quality of the survey appears to allow simple exercises such as those proposed in this chapter.
We focus our tests on a variable that captures the extent of corruption in the country perceived by each individual. The question that best captures this is *Perception of corruption*, namely 'Corruption has increased or decreased?'. The answer can be one of five categories: 'Has increased a lot', 'Has increased a little', 'Has stayed the same', 'Has fallen a little', or 'Has fallen a lot'. Although there are five categorical answers to this question, the overwhelming majority chooses one option. Table 12.1 shows the distribution of survey responses across our sample. Because the vast majority of the sample selected the answer 'corruption has increased a lot over the past year', we collapsed the answers into two: one with the first category and the second with the remaining four categories. We repeated the analysis using the combined four categories and all our results remain qualitatively similar.

The other variables of interest are ideological standing ('In politics people talk of the “left” and of the “right”. On a scale where “0” is right and “10” is left, where would you place yourself?'), beliefs concerning the fairness of the distribution of income ('Now I'd like you to answer some questions about the problem of poverty, in this country and in other countries: how fair do you think the distribution of income is in this country?'), where the four possible answers are: 4. 'Very fair'; 3. 'Fair'; 2. 'Unfair'; and 1. 'Very unfair'), and beliefs concerning the benefits of privatization (the answer to the question 'Do you agree or disagree with the following statement: the privatization of public companies has been beneficial to the country'. The four possible answers are 4. 'Very much in agreement'; 3. 'In agreement'; 2. 'In disagreement'; 1. 'Very much in disagreement'. Appendix 12A contains the full survey description and set of variable definitions.

The regressions presented in all the tables are estimated through ordinary least squares (OLS) because it is simple to interpret and because using a more flexible cardinalization does not change any of the main results. We include year dummies in these regressions as controls. We also re-estimated all of the reported regressions including income, education, gender and occupation as covariates and obtain very similar results (again, we present the simplest possible estimates for transparency).

The right-hand variable in all of the main tables (12.2, 12.3 and 12.4) is *Perception of corruption* (collapsed into two categories, as explained above).

*Results 1: perception of corruption and ideology* We present the basic set of results in Table 12.2. There are 17 regressions, one for each country for which we have data. The left-hand variable is ideological self-placement. Specifically, we use the answer to the question 'In politics people talk of the “left” and of the “right”. On a scale where “0” is right and “10” is left, where would you place yourself?'. The correlation with *Perception of corruption*
Table 12.1  Distribution of responses to the question: 'corruption has increased or decreased?' (17 Latin American countries)

<table>
<thead>
<tr>
<th></th>
<th>Argentina</th>
<th>Bolivia</th>
<th>Brazil</th>
<th>Colombia</th>
<th>Costa Rica</th>
<th>Chile</th>
<th>Ecuador</th>
<th>El Salvador</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has increased a lot</td>
<td>8,292</td>
<td>4,596</td>
<td>5,579</td>
<td>5,911</td>
<td>5,363</td>
<td>4,211</td>
<td>6,315</td>
<td>5,289</td>
</tr>
<tr>
<td>Has increased</td>
<td>521</td>
<td>468</td>
<td>555</td>
<td>543</td>
<td>305</td>
<td>1,233</td>
<td>393</td>
<td>744</td>
</tr>
<tr>
<td>Has stayed the same</td>
<td>532</td>
<td>311</td>
<td>731</td>
<td>523</td>
<td>184</td>
<td>148</td>
<td>310</td>
<td>588</td>
</tr>
<tr>
<td>Has decreased a lot</td>
<td>99</td>
<td>93</td>
<td>265</td>
<td>142</td>
<td>36</td>
<td>274</td>
<td>94</td>
<td>143</td>
</tr>
</tbody>
</table>

Table 12.2  Corruption perception and ideological beliefs in Latin America

<table>
<thead>
<tr>
<th></th>
<th>(1) Argentina</th>
<th>(2) Bolivia</th>
<th>(3) Brazil</th>
<th>(4) Colombia</th>
<th>(5) Costa Rica</th>
<th>(6) Chile</th>
<th>(7) Ecuador</th>
<th>(8) El Salvador</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perception of corruption</td>
<td>-0.04</td>
<td>0.42</td>
<td>0.041</td>
<td>0.17</td>
<td>-0.39</td>
<td>-0.22</td>
<td>0.07</td>
<td>0.50</td>
</tr>
<tr>
<td>(0.08)</td>
<td>(0.10)</td>
<td>(0.029)</td>
<td>(0.09)</td>
<td>(0.13)</td>
<td>(0.06)</td>
<td>(0.13)</td>
<td>(0.09)</td>
<td></td>
</tr>
<tr>
<td>No. of Obs</td>
<td>7,192</td>
<td>4,083</td>
<td>6,172</td>
<td>5,349</td>
<td>4,380</td>
<td>5,620</td>
<td>5,734</td>
<td>5,293</td>
</tr>
<tr>
<td>Pseudo R²</td>
<td>0.006</td>
<td>0.012</td>
<td>0.014</td>
<td>0.021</td>
<td>0.019</td>
<td>0.004</td>
<td>0.009</td>
<td>0.031</td>
</tr>
</tbody>
</table>

Notes:
1. Dependent variable, Ideology-L, is the answer to the question: 'In politics people talk of the "left" and of the "right". In a scale where "0" is right and "10" is left, where would you place yourself?'.
2. All regressions are OLS and include year dummies. Standard errors in parentheses.
3. Perception of corruption is a dummy that equals 1 if the answer to the question 'Corruption, has increased or decreased?' is 'Has increased a lot' and 0 if it is 'Has increased a little', 'Has stayed the same', 'Has fallen a little' or 'Has fallen a lot'.

is positive in 13 out of 17 regressions indicating that people who perceive corruption to have increased also tend to be on the left of the political spectrum. The four exceptions are Argentina, Chile, Costa Rica and Venezuela, although it is statistically significant only in the last three countries. In the 13 countries where the correlation is positive, it is significant in nine of them (and in three of them only at the 10 percent level). The countries where the correlation is negative and significant have extreme political histories, at least in the cases of Chile and Venezuela. In terms of size, no generalizations appear possible.
Of course, the exact interpretation of ideological position varies across countries. More precisely, and as suggested by the examples of the countries where the correlation is negative, there may be political differences in the countries that originate in their historical experiences. It is entirely possible that right-wing ideas are associated with colonial origin or a recent military dictatorship that is also autocratic and corrupt. In that case the association does not reflect issues of commercial legitimacy (such as those that concern us) but rather these historical experiences. Thus, it is of interest to study more ‘pure’ forms of ideology or, more precisely, specific economic components of ideology. The Latinobarómetro includes two questions that can be used for such purposes. Table 12.3 presents the results obtained using the variable, *Fair*, which is generated from the question, ‘How fair do you think the distribution of income is in this country?’. The specification again includes only year dummies as controls, but including the basic set of personal controls leaves the results unchanged. The results are somewhat stronger, with all 17 correlations being negative, and 15 of
Table 12.3  Corruption perception and belief in fair distribution of income

<table>
<thead>
<tr>
<th></th>
<th>(1) Argentina</th>
<th>(2) Bolivia</th>
<th>(3) Brazil</th>
<th>(4) Colombia</th>
<th>(5) Costa Rica</th>
<th>(6) Chile</th>
<th>(7) Ecuador</th>
<th>(8) El Salvador</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perception of corruption</td>
<td>-0.38</td>
<td>-0.27</td>
<td>-0.17</td>
<td>-0.12</td>
<td>-0.27</td>
<td>-0.19</td>
<td>-0.07</td>
<td>-0.23</td>
</tr>
<tr>
<td>of corruption</td>
<td>(0.03)</td>
<td>(0.06)</td>
<td>(0.03)</td>
<td>(0.06)</td>
<td>(0.10)</td>
<td>(0.03)</td>
<td>(0.05)</td>
<td>(0.05)</td>
</tr>
<tr>
<td>No. of Obs.</td>
<td>4,594</td>
<td>1,807</td>
<td>3,001</td>
<td>2,341</td>
<td>1,909</td>
<td>3,435</td>
<td>2,288</td>
<td>2,708</td>
</tr>
<tr>
<td>Pseudo Rsq</td>
<td>0.127</td>
<td>0.014</td>
<td>0.066</td>
<td>0.049</td>
<td>0.031</td>
<td>0.034</td>
<td>0.001</td>
<td>0.009</td>
</tr>
</tbody>
</table>

Notes:
1. Dependent variable, Fair, is the answer to the question: ‘How fair do you think the distribution of income is in this country?’. Very fair = 4; Fair = 3; Unfair = 2; Very unfair = 1.
2. All regressions are OLS and include year dummies. Standard errors in parentheses.
3. Perception of corruption is a dummy that equals 1 if the answer to the question ‘Corruption, has increased or decreased?’ is ‘Has increased a lot’ and 0 if it is ‘Has increased a little’, ‘Has stayed the same’, ‘Has fallen a little’ or ‘Has fallen a lot’.

them strongly significant. The size of the effect appears consistent across countries, although being categorical answers, the interpretation is perhaps less straightforward.

An alternative question is ‘Do you agree or disagree with the following statement: the privatization of public companies has been beneficial to the country’. The four possible answers are ‘Very much in agreement’ = 4, ‘In agreement’ = 3, ‘In disagreement’ = 2 and ‘Very much in disagreement’ = 1. Table 12.4 presents the results from correlating these answers (measured by the variable, Privatize) with the answer to the question on the extent of corruption (including only an indicator for the year in which the survey was carried out, although the results remain similar if our basic set of controls is included). Of the 17 columns, 15 report negative correlations and two report positive (although one of these is insignificant) correlations. Of the 15 negative correlations, one is insignificant, one is significant at the 10 percent level, while the rest are significant at conventional levels. Again, no generalizations concerning the size of the effect appear possible.

Results 2: experience with corruption and ideology  Whereas the previous correlations involve measures of perceptions on both the right- and left-hand sides, the Latinobarómétre allows us to move towards aspects more closely related to actual experience. Indeed, in the last few waves (since 2000) the survey includes a question on corruption experience. It asks: ‘Have you or a relative of yours been the victim of a crime in the last twelve months?’. This is immediately followed by the questions: ‘Have you, or a relative of yours, known of an act of corruption in the last twelve months?’,
'Have you known of a friend, or a relative of yours that has consumed drugs in the last twelve months?', and 'Have you known of somebody that has participated in buying or selling of drugs in the last twelve months?' The possible answers for each of the questions are 'Yes', 'No', and 'I don’t know' (the categories 'I don’t know' and 'No answer' will not be considered in our analysis). We focus on the corruption answers from which we define the variable, Corruption case.

Given the wording, and the fact that it immediately follows a question asking about one's experience with crime, we believe that the interpretation of this question in terms of direct experience is justified. However, it is possible that the answers might reflect overall perception of acts of corruption from media reports because the question does not ask respondents to limit their answers to examples from personal experience. The distribution across countries is shown in Table 12.5.

The answers are somewhat different from those obtained using the previous question (on the perception of corruption), which gives us confidence that these two variables are capturing somewhat different concepts. Most striking, perhaps, is the fact that in two countries (Brazil and Mexico) the number of people answering 'yes' was higher than the number answering 'no' (whereas Perception of corruption in Brazil and Mexico does not behave differently from in the other countries).

As in the previous section we start with ideological self-placement (this is done in Table 12.6). The left-hand side variable is the answer to the question, 'In politics people talk of the “left” and of the “right”. On a scale where “0” is right and “10” is left, where would you place yourself?'. Again the estimation is with simple OLS and the only covariate included is a year indicator. The correlation with Corruption case is positive in 14 out of 18 regressions (there is one extra country compared to Table 12.2 because Dominican Republic is added to the sample). In nine out of these 14 regressions the correlation is significant at the 10 percent level or better whereas only one of the four negative correlations is significant. These results are
### Table 12.4  Corruption perception and belief in the benefits of privatization

<table>
<thead>
<tr>
<th></th>
<th>(1) Argentina</th>
<th>(2) Bolivia</th>
<th>(3) Brazil</th>
<th>(4) Colombia</th>
<th>(5) Costa Rica</th>
<th>(6) Chile</th>
<th>(7) Ecuador</th>
<th>(8) El Salvador</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perception of corruption</td>
<td>-0.11</td>
<td>-0.07</td>
<td>-0.10</td>
<td>-0.09</td>
<td>-0.07</td>
<td>-0.06</td>
<td>0.01</td>
<td>-0.09</td>
</tr>
<tr>
<td>(0.02)</td>
<td>(0.02)</td>
<td>(0.02)</td>
<td>(0.02)</td>
<td>(0.03)</td>
<td>(0.02)</td>
<td>(0.02)</td>
<td>(0.02)</td>
<td>(0.02)</td>
</tr>
<tr>
<td>No. of Obs.</td>
<td>3,607</td>
<td>3,694</td>
<td>3,671</td>
<td>4,392</td>
<td>3,476</td>
<td>3,132</td>
<td>4,341</td>
<td>4,529</td>
</tr>
<tr>
<td>Pseudo Rsq</td>
<td>0.063</td>
<td>0.050</td>
<td>0.026</td>
<td>0.055</td>
<td>0.064</td>
<td>0.023</td>
<td>0.022</td>
<td>0.039</td>
</tr>
</tbody>
</table>

**Notes:**
1. Dependent variable, *Privatize*, is the answer to the question: ‘Do you agree with the statement: The privatization of state owned enterprises was beneficial to the country’.
2. Very much in agreement = 4; In agreement = 3; In disagreement = 2; Very much in disagreement = 1.
3. All regressions are OLS and include year dummies. Standard errors in parentheses.

less robust than the correlations presented in Table 12.2 because when the same additional set of covariates is used as controls, three more coefficients from the 14 regressions that exhibit a positive correlation become insignificant.

Again, given that the exact interpretation of ideological position varies across countries we focus on attributes of ideology that are easier to interpret. Table 12.7 correlates Corruption case with the answer to the question, ‘How fair do you think the distribution of income is in this country?’ The specification again includes only year dummies as controls, but including the basic set of personal controls leaves the results unchanged (it actually increases the significance of several coefficients). The overall results are relatively supportive of the idea that corruption moves people’s beliefs in a left-wing direction, with 15 out of 18 correlations being negative, 11 of which are statistically significant.

Finally, we also correlate Corruption case with the answer to the question, ‘Do you agree or disagree with the following statement: the privatization of public companies has been beneficial to the country’. The four possible answers are: ‘Very much in agreement’ which equals 4, ‘In agreement’ = 3, ‘In disagreement’ = 2 and ‘Very much in disagreement’ = 1. Table 12.8 presents the results. The overall picture is inconclusive, since there are no strong correlations uncovered in this table. Of the 17 regressions (there are no data on privatization for Dominican Republic), all but
two are insignificant (although these two are negative as expected). Including other covariates (education, income, occupation and gender) leaves the results unchanged, with the only exception being Colombia where the coefficient turns significant at the 10 percent level (this coefficient is also negative as expected).

3. **Empirical results on the correlation between EBITDA and beliefs**

One way to move beyond correlations of a person’s opinions is to study data on earnings. Given that capital is (somewhat) mobile, returns are presumably similar across countries. But in some countries capitalism is illegitimate, which means that taxes are high and capital tends to run the risk of expropriation. In such an environment, corruption prevails both because government intervention allows extortion to take place and because lobbying and capture are very productive to capitalists. This suggests that firms in countries where capitalism has low legitimacy also tend to have high rates of pre-tax earnings (indicating that rents are high relative to productivity). We investigate this further by collecting data on company earnings before interest payments, taxes and depreciation (EBITDA) for all traded companies, measured as a proportion of GDP. This is a selected sample since the proportion of traded companies obviously depends on factors that are correlated with corruption and other variables of interest (for example, family capitalism), so our calculations remain illustrative. For each country we then obtain the average EBITDA. We also obtain from the World Values Survey some measures of beliefs about aspects of the capitalist system.

One question concerns the organization of business. The precise question is:

There is a lot of discussion about how business and industry should be managed.

Which of these four statements comes closest to your opinion?
Table 12.5  Distribution of responses to the question: 'Have you, or a relative of yours, known of an act of corruption in the last 12 months?' (18 Latin American countries)

<table>
<thead>
<tr>
<th></th>
<th>Argentina</th>
<th>Bolivia</th>
<th>Brazil</th>
<th>Colombia</th>
<th>Costa Rica</th>
<th>Chile</th>
<th>Ecuador</th>
<th>El Salvador</th>
<th>Guatemala</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>1027</td>
<td>849</td>
<td>2001</td>
<td>397</td>
<td>632</td>
<td>364</td>
<td>724</td>
<td>753</td>
<td>853</td>
</tr>
<tr>
<td>No</td>
<td>3709</td>
<td>2495</td>
<td>1350</td>
<td>3151</td>
<td>2344</td>
<td>3148</td>
<td>3207</td>
<td>3207</td>
<td>3072</td>
</tr>
</tbody>
</table>

Note: The data correspond to the years 2001, 2003 and 2004, except for Argentina, El Salvador, Guatemala, Panama, Paraguay and Uruguay which also include the year 2002.

Table 12.6  Corruption experiences and ideological beliefs in Latin America

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
<th>(7)</th>
<th>(8)</th>
<th>(9)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Argentina</td>
<td>Bolivia</td>
<td>Brazil</td>
<td>Colombia</td>
<td>Costa Rica</td>
<td>Chile</td>
<td>Ecuador</td>
<td>El Salvador</td>
<td>Guatemala</td>
</tr>
<tr>
<td>Corrup-</td>
<td>0.23</td>
<td>0.19</td>
<td>0.48</td>
<td>0.48</td>
<td>-0.22</td>
<td>0.02</td>
<td>0.19</td>
<td>0.64</td>
<td>0.18</td>
</tr>
<tr>
<td>tion case</td>
<td>(0.09)</td>
<td>(0.11)</td>
<td>(0.12)</td>
<td>(0.17)</td>
<td>(0.15)</td>
<td>(0.15)</td>
<td>(0.13)</td>
<td>(0.15)</td>
<td>(0.15)</td>
</tr>
<tr>
<td>No. of</td>
<td>3,552</td>
<td>2,401</td>
<td>2,6282</td>
<td>2,370</td>
<td>2,065</td>
<td>2,565</td>
<td>2,699</td>
<td>2,650</td>
<td>2,233</td>
</tr>
<tr>
<td>Obs.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pseudo</td>
<td>0.004</td>
<td>0.009</td>
<td>0.012</td>
<td>0.020</td>
<td>0.055</td>
<td>0.003</td>
<td>0.002</td>
<td>0.012</td>
<td>0.026</td>
</tr>
<tr>
<td>Rsq</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:
1. Dependent variable, Ideology-L, is the answer to the question: 'In politics people talk of the “left” and of the “right”. In a scale where “0” is right and “10” is left, where would you place yourself?'
2. All regressions are OLS and include year dummies. Standard errors in parentheses.
3. Corruption case is a dummy that equals 1 if the answer to the question 'Have you, or a relative of yours, known of an act of corruption in the last twelve months?', is yes and zero if it is no.
4. The data for Corruption case correspond to the years 2001, 2003 and 2004, except for Argentina, El Salvador, Guatemala, Panama, Paraguay and Uruguay which also include the year 2002.

1. The owners should run their business or appoint the managers.
2. The owners and the employees should participate in the selection of managers.
3. The government should be the owner and appoint the managers.
4. The employees should own the business and should elect the managers.
5. Don’t know.

We define a dummy variable, Owners decide, taking the value 1 if the individual answers option one (allowing owners to run their business or appoint
the managers) and 0 otherwise. Averages across all respondents living in each country are again computed. The expected correlation with EBITDA is negative, since we predict less public desire for owners to be running businesses (and more desire for employees to become involved) as pre-tax profits become excessively large. The actual partial correlation coefficient is –0.33, significant at the 13 percent level, with 22 observations (Figure 12.1).

An alternative measure of beliefs is given by the mean answer to the question:

Now I’d like you to tell me your views on various issues. How would you place your views on this scale? 1 means you agree completely with the statement on the left; 10 means you agree completely with the statement on the right; and if your views fall somewhere in between, you can choose any number in between.

1. Private ownership of business and industry should be increased.
2. 
Table 12.7 Corruption experience and belief in a fair distribution of income

<table>
<thead>
<tr>
<th></th>
<th>(1) Argentina</th>
<th>(2) Bolivia</th>
<th>(3) Brazil</th>
<th>(4) Colombia</th>
<th>(5) Costa Rica</th>
<th>(6) Chile</th>
<th>(7) Ecuador</th>
<th>(8) El Salvador</th>
<th>(9) Guatemala</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corruption case</td>
<td>-0.10</td>
<td>-0.18</td>
<td>-0.34</td>
<td>-0.01</td>
<td>-0.20</td>
<td>-0.07</td>
<td>-0.10</td>
<td>-0.14</td>
<td>-0.17</td>
</tr>
<tr>
<td>(0.03)</td>
<td>(0.06)</td>
<td>(0.07)</td>
<td>(0.07)</td>
<td>(0.08)</td>
<td>(0.07)</td>
<td>(0.06)</td>
<td>(0.06)</td>
<td>(0.05)</td>
<td></td>
</tr>
<tr>
<td>No. of Obs.</td>
<td>2,310</td>
<td>995</td>
<td>935</td>
<td>1,158</td>
<td>937</td>
<td>1,112</td>
<td>1,139</td>
<td>1,762</td>
<td>1,821</td>
</tr>
<tr>
<td>Pseudo Rsq</td>
<td>0.007</td>
<td>0.009</td>
<td>0.024</td>
<td>0.000</td>
<td>0.005</td>
<td>0.000</td>
<td>0.002</td>
<td>0.015</td>
<td>0.007</td>
</tr>
</tbody>
</table>

Notes:
1. Dependent variable, Fair, is the answer to the question: ‘How fair do you think the distribution of income is in this country?’. Very fair = 4; Fair = 3; Unfair = 2; Very unfair = 1.
2. All regressions are OLS and include year dummies. Standard errors in parentheses.
3. Corruption case is a dummy that equals 1 if the answer to the question ‘Have you, or a relative of yours, known of an act of corruption in the last twelve months?’, is yes and zero if it is no.
4. The data for Corruption case correspond to the years 2001, 2003 and 2004, except for Argentina, El Salvador, Guatemala, Panama, Paraguay and Uruguay which also include the year 2002.

![Graph showing the relationship between EBITDA/GDP and Mean of Owners decide.](image)

Note: The Y-axis is the average answer to a survey question that is ranked on a scale from 0 to 1: 1 = Owners decide; 0 = All others.

Figure 12.1 EBITDA and average answer to ‘How should business be managed?’
Corruption and the demand for regulating capitalists

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.09</td>
<td>-0.22</td>
<td>0.05</td>
<td>-0.04</td>
<td>-0.14</td>
<td>0.05</td>
<td>-0.16</td>
<td>-0.03</td>
<td>-0.10</td>
</tr>
<tr>
<td></td>
<td>(0.06)</td>
<td>(0.09)</td>
<td>(0.05)</td>
<td>(0.05)</td>
<td>(0.06)</td>
<td>(0.04)</td>
<td>(0.08)</td>
<td>(0.03)</td>
<td>(0.03)</td>
</tr>
<tr>
<td></td>
<td>947</td>
<td>1,230</td>
<td>964</td>
<td>1,810</td>
<td>1,152</td>
<td>965</td>
<td>2,271</td>
<td>1,141</td>
<td>2,304</td>
</tr>
<tr>
<td></td>
<td>0.001</td>
<td>0.010</td>
<td>-0.001</td>
<td>0.006</td>
<td>0.014</td>
<td>-0.000</td>
<td>0.006</td>
<td>-0.001</td>
<td>0.020</td>
</tr>
</tbody>
</table>

9.

10. Government ownership of business and industry should be increased.

99. Don't know.

We define Less private ownership to be a cardinal variable measured on the 1 to 10 scale corresponding to the above answers for each country. Averages across all respondents living in each county are computed so now, for example, if half of the sample answers 1 and the other half answers 10, then the average would be 5.5. The prediction is again that high corruption countries have a high EBITDA, high enough so that firms can meet corruption payments and tax impositions by a dissatisfied and suspicious public. And in these countries, beliefs that there should be less private ownership and more government ownership should become more widespread (that is, we now expect a positive correlation with EBITDA). There are 35 observations and the partial correlation coefficient is 0.61, significant at the 1 percent level. Figure 12.2 presents a graph to illustrate.

Finally, we can study the relationship between the EBITDA measure (normalized over GDP), and the extent of corruption. For the latter we use two measures. First we use the World Values Survey question that asks about the extent of corruption. There are four possible answers and we give the value 1 to those answering 'almost no public official involved', 2 = 'a few public officials involved', 3 = 'most public officials are involved' and 4 = 'almost all public officials are involved'. The answers are in the aggregate tilted towards more corruption, with 908 individuals answering category 1, 7,081 answering category 2, 6,870 answering category 3 and 5,303 answering category 4. The correlation with the EBITDA measure is 0.9635, significant at the 1 percent level for just seven observations
### Table 12.8  Corruption experience and belief in the benefits of privatization

<table>
<thead>
<tr>
<th></th>
<th>(1) Argentina</th>
<th>(2) Bolivia</th>
<th>(3) Brazil</th>
<th>(4) Colombia</th>
<th>(5) Costa Rica</th>
<th>(6) Chile</th>
<th>(7) Ecuador</th>
<th>(8) El Salvador</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corruption case</td>
<td>0.02 (0.01)</td>
<td>-0.01 (0.02)</td>
<td>-0.10 (0.02)</td>
<td>-0.02 (0.03)</td>
<td>-0.01 (0.04)</td>
<td>-0.01 (0.03)</td>
<td>0.02 (0.02)</td>
<td>-0.01 (0.02)</td>
</tr>
<tr>
<td>No. of Obs.</td>
<td>3,401</td>
<td>2,063</td>
<td>1,983</td>
<td>2,115</td>
<td>882</td>
<td>2,078</td>
<td>2,145</td>
<td>2,699</td>
</tr>
<tr>
<td>Pseudo Rsq</td>
<td>0.004</td>
<td>0.005</td>
<td>0.011</td>
<td>0.040</td>
<td>-0.001</td>
<td>0.015</td>
<td>0.020</td>
<td>0.043</td>
</tr>
</tbody>
</table>

**Notes:**
1. Dependent variable, *Privatize*, is the answer to the question: 'Do you agree with the statement; the privatization of state owned enterprises was beneficial to the country'. Very much in agreement = 4; In agreement = 3, In disagreement = 2; Very much in disagreement = 1.
2. All regressions are OLS and include year dummies. Standard errors in parentheses.
3. *Corruption case* is a dummy that equals 1 if the answer to the question "Have you, or a relative of yours, known of an act of corruption in the last twelve months?", is yes and zero if it is no.
4. The data for *Corruption case* correspond to the years 2001, 2003 and 2004, except for Argentina, El Salvador, Guatemala, Panama, Paraguay and Uruguay which also include the year 2002.

![Graph showing Mean of Loss of private ownership vs EBITDA/GDP](image)

**Note:** The Y-axis is the average answer to a survey question that is ranked on a scale from 1-10: 1 = More private ownership; 10 = More government ownership.

**Figure 12.2**  EBITDA and average answer to 'Should private ownership be increased?'
(see Figure 12.3). We can also increase the number of countries covered by considering the Transparency International (TI) measure of corruption for the year 2000 (almost identical results obtain if an average of the TI index for several years is used). The TI measure is defined in a way that higher numbers denote less corruption. The correlation with the EBITDA measure is \(-0.50\), significant at the 1 percent level across 49 countries (see Figure 12.4).

4 Conclusions
Economists have emphasized a variety of channels through which corruption affects economic activity. Perhaps the most influential view is that of Djankov et al. (2002), who argue that regulations are put into place to allow rent extraction by bureaucrats (the 'tollbooth' theory of regulation) rather than to maximize social welfare. They find that measures of the intensity of regulation are positively correlated with bad-performance indicators across countries (for example, water pollution, deaths from intestinal infection and so on). They also find that corruption and measures of regulation (such as the number of procedures, time and cost measures) are positively related. They conclude, 'While the data are noisy, none of the results support the predictions of the public interest theory' (p. 25), favoring instead the 'tollbooth theory'. In Di Tella and MacCulloch (2002) we have shown that, within a country, people who observe a lot of corruption also want more regulation. This is inconsistent with the tollbooth theory. The alternative explanation that we proposed is that corruption by rich capitalists offends people's sense of fairness, who then vote for more regulation even if that generates more corruption (much like in the ultimatum game where people 'burn' money).

In this chapter we present a different model based on standard (that is, non-altruistic) preferences. In it, corruption by capitalists reveals that they are low productivity (otherwise they would spend their time innovating) and
International handbook on the economics of corruption

Note: The Y-axis is the average answer to a survey question that is ranked on a scale from 1–4. 1 = Almost no official involved; 4 = Almost all officials involved.

Figure 12.3 EBITDA and average answer to ‘Extent of Corruption’

Note: The Y-axis is the average answer to a survey question that is ranked on a scale from 1–10. 1 = Maximum corruption; 10 = Minimal corruption.

Figure 12.4 EBITDA and Transparency International Corruption Index for 2000
then people optimally choose socialism because (among other reasons) redistribution is not so costly in terms of low incentives. We also study the evidence available. First, data from the Latinobarómetro suggest that people who perceive corruption to be high in their countries also tend to answer that they are on the left of the political spectrum, that the distribution of income is unfair, and that privatizations of state-owned enterprises were not beneficial to the country. Replicating the results in Di Tella and MacCulloch (2002) using a different dataset, and with slightly different questions, gives us some confidence that the tooboth theory of regulation is, at best, seriously incomplete. Moving beyond correlations between two opinions held by an individual, we study the correlation between left-wing beliefs and corruption experience, namely whether the individual (or a relative) knows of an act of corruption in the last 12 months. This yields broadly similar results. Finally, we also present some evidence on the correlation of beliefs with accounting measures of firm performance (like EBITDA, earnings before interest, taxes and depreciation). The idea is that in countries where corruption is high, and capitalism is illegitimate, firms have to earn higher profits out of which they can make their bribe and tax payments to bureaucrats. The correlations we observe are consistent with the idea that a big cost of corruption is that it affects the legitimacy of the capitalist system and that individuals vote for more regulation as a reaction.

Notes
* For comments, suggestions and sharing data, we thank Paúlena Beato, Sebastián Galí and Ernesto Schargrodsky as well as seminar participants at the Inter-American Development Bank. In particular, we thank Jaime Jordan who suggested that we should look into EBITDA measures.
1. Just like unemployment data (and other measures of labor market conditions), such data are not subjective even though they come from a survey.
2. Officials can either be voted out or fired, whereas private sector productivity depends on slow-moving rates of technological progress.
3. The model can be extended to the case of many firms. See the discussion subsection below.
4. We assume that the manager splits the government budget with the corrupt official. Any other division can be assumed without loss of generality.
5. Our results still hold when we assume that capitalism offers higher returns ex ante.
6. Note that even without two types of manager coexisting the (past) observation of corruption imposes an external cost on (future) productive managers since the latter will be forced to drop production from \( h \) to \( s \) if voters decide to abandon capitalism.
7. This is consistent with Lambsdorff (2003), who shows that aggregate measures of productivity (such as the ratio of GDP to the country's capital stock) are negatively correlated with corruption; and Kaufmann and Wei (1999), who show that the amount of time that managers spend with bureaucrats is correlated with corruption.
8. In Bartlett et al. (2002), for example, the founder of the firm is more likely to leave the management in the hands of a less able heir (than in those of a professional manager) in environments with weak legal protection to investors (which is more common in less-developed countries).
9. We thank the Inter-American Development Bank for providing us with the data.
References


Burkart, M., F. Panunzi and A. Shleifer (2002), 'Family firms', mimeo, Harvard University, Cambridge, MA.


Appendix 12A  Survey descriptions and variable definitions

Latinobarómetro survey
The Latinobarómetro Survey is an annual public opinion survey of approximately 19,000 people in 18 countries in Latin America. Questions of interest rotate, so the number of waves (and thus our sample size) varies considerably depending on the question being studied. It is produced by Latinobarómetro Corporation, a non-profit NGO based in Santiago, Chile. It surveys development of democracies, economies and societies and we are particularly interested in a number of attitudinal variables that are associated with ideological standing (on an economic dimension). It is similar to the World Values Survey in scope and design, so it allows cross-national comparison of values and norms on a variety of topics. National random sampling was used, with surveys carried out through face-to-face interviews, with a sampling universe consisting of adult citizens, aged 18 and older. The countries covered are Argentina, Bolivia, Brazil, Colombia, Costa Rica, Chile, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Dominican Republic (for some surveys), Uruguay and Venezuela.

Variable definitions

Perception of corruption  A dummy that equals 1 if the answer to the question ‘Corruption has increased or decreased?’ is ‘Has increased a lot’ and 0 if it is ‘Has increased a little’, ‘Has stayed the same’, ‘Has fallen a little’ or ‘Has fallen a lot’.

Corruption case  A dummy that equals 1 if the answer to the question ‘Have you, or a relative of yours, known of an act of corruption in the last twelve months?’ is ‘Yes’ and 0 if it is ‘No’.

Ideology-L  The answer to the question ‘In politics, people often refer to left and to right. On a scale where 0 is right and 10 is left, where would you place yourself?’, The possible answers are: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10.

Fair  The answer to the question ‘Now I’d like to ask you some questions about the problem of poverty, in this country and in other countries: how fair do you think the distribution of income is in this country?’. The four possible answers are: 1 = Very unfair; 2 = Unfair; 3 = Fair; and 4 = Very fair.

Privitize  The answer to the question ‘Do you agree or disagree with the following statement: the Privatization of public companies has been beneficial to the country’. The four possible answers are 1 = ‘Very much in disagreement’; 2 = ‘In disagreement’; 3 = ‘In agreement’; 4 = ‘Very much in agreement’. 
Gender  The respondent's gender.

Income  The respondents declared income level as captured by the question 'The wage or salary you receive and the total family income, does it allow you to satisfactorily cover your needs? In which of these situations are you?'. The possible answers are: It is good enough, you can save; It is just enough, without great difficulties; It is not enough, you have difficulties; and It is not enough, you have great difficulties.

Occupation  Respondent's answer to the question 'What type of work do you do?' The eight possible answers are: Independent professional (doctor, lawyer, accountant, architect); Independent business owner; Independent farmer/fisherman; Independent self-employed, traveler; Salaried employee, professional; Salaried employee, high executive (manager, director); Salaried employee, middle manager; and Salaried employee, other employee.

Education  The respondent's level of education, one of seven categories (illiterate, basic-incomplete, basic-complete, secondary-middle-technical-incomplete, secondary-middle-technical-complete, superior-incomplete and superior-complete). It is constructed using the answers to the question 'What studies have you done? What is the last year you attended? Was it a technical school? and so on'. The 17 possible answers are: no studies; 1 year; 2 years; 3 years; 4 years; 5 years; 6 years; 7 years; 8 years; 9 years; 10 years; 11 years; 12 years; University-incomplete; University-complete; Superior Institute/academies/technical studies-incomplete; and Superior Institute/academies/technical studies-incomplete.


The Combined World Values Survey is produced by the Institute for Social Research, Ann Arbor, MI, USA. The series is designed to enable a cross-national comparison of values and norms on a wide variety of norms and to monitor changes in values and attitudes across the globe. Both national random and quota sampling were used. All of the surveys were carried out through face-to-face interviews, with a sampling universe consisting of all adult citizens, aged 18 and older, across over 60 nations around the world. The 1981–83 survey covered 22 independent countries; the 1990–93 survey covered 42 independent countries; and the 1995–97 survey covered 53 independent countries. In total, 64 independent countries have been surveyed in at least one wave of this investigation (counting East Germany as an independent country, which it was when first surveyed). These countries include almost 80 percent of the world's population. A fourth wave of surveys was carried out in 1999–2000. The full set of countries covered is: Argentina, Armenia, Australia, Austria, Azerbaijan, Belgium, Bangladesh, Bulgaria,
Bosnia-Herzegovina, Belarus, Brazil, Canada, Switzerland, Chile, China, Colombia, Czech Republic, East and Unified Germany, Denmark, Dominican Republic, Spain, Estonia, Finland, France, the United Kingdom, Georgia, Ghana, Croatia, Hungary, India, Ireland, Northern Ireland, Iceland, Italy, Japan, South Korea, Lithuania, Latvia, Madagascar, Mexico, Macedonia, Montenegro, the Netherlands, Norway, Pakistan, Peru, the Philippines, Poland, Puerto Rico, Portugal, Russia, Slovak Republic, Slovenia, Sweden, Turkey, Taiwan, Ukraine, Uruguay, the United States of America, Venezuela, South Africa, Moscow, Tambov oblast, Montenegro, Spain, Nigeria, Romania, Moldova and Serbia.

Variable definitions

Capitalists threaten order A dummy variable taking the value 1 if answer (2) is given to the question 'I'd like to ask you about some groups that some people feel are threatening to the social and political order in this society. Would you please select from the following list the one group or organization that you like least?'

2. Capitalists.
4. Immigrants.
5. Homosexuals.
6. Criminals.
7. Neo-Nazis/Right extremists.

Owners decide A dummy taking the value 1 if answer (1) is given to the question 'There is a lot of discussion about how business and industry should be managed. Which of these four statements comes closest to your opinion?'

1. The owners should run their business or appoint the managers.
2. The owners and the employees should participate in the selection of managers.
3. The government should be the owner and appoint the managers.
4. The employees should own the business and should elect the managers.

Less private ownership The answer to the following question: 'Now I'd like you to tell me your views on various issues. How would you place your views on this scale? 1 means you agree completely with the statement
on the left; 10 means you agree completely with the statement on the right; and if your views fall somewhere in between, you can choose any number in between. 1 = Private ownership of business and industry should be increased; 2, 3, 4, 5, 6, 7, 8, 9, 10 = Government ownership of business and industry should be increased.

Extent of corruption  The answer to the question ‘How widespread do you think bribe taking and corruption is in this country?’ The four possible answers are: 1 = Almost no public officials are engaged in it; 2 = A few public officials are engaged in it; 3 = Most public officials are engaged in it; and 4 = Almost all public officials are engaged in it.

TI CPI  The Transparency International Corruption Perception Index for the year 2000. Ranges from 1 to 10 where higher numbers denote less corruption.

EBITDA/GDP  Earnings before interest, taxes and depreciation, as a proportion of GDP. The EBITDA data came from the Standard & Poors Compustat database. It has both a US domestic database as well as a global database, called Global Vantage. We used the Global Vantage data for our calculations.