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ABSTRACT   We show that capitalism is far from common around the world. Outside a small group of rich countries, heavy regulation of business, leftist rhetoric, and interventionist beliefs flourish. We relate these phenomena to the presence of corruption, with causality running in both directions. The paper presents evidence that, within a country, those who perceive widespread corruption also tend to demand more regulation. As regulation is held constant within a country, this finding is hard to explain if one assumes that causality runs only from regulation to corruption. We also find that over time, increases in corruption in a country precede increases in left-wing voting. To explain our findings, we present a model where corrupt capitalists are disliked, and voting for left-wing policies is a form of punishment available to voters even in weak judicial systems. Evidence on emotions supports this explanation: the frequency with which people report experiencing anger is positively correlated with perceived corruption, but this relationship is significantly weaker when business is heavily regulated.

E conomists often argue that capitalism outperforms socialism on numerous dimensions. These arguments are so compelling that one might be led to believe that free markets, perhaps with some redistribution, are the norm around the world. In reality, this is not the case. Outside the United States and a small set of other rich countries, public opinion tends to be unimpressed with the performance of capitalism. Resistance to free markets has been observed in former communist countries, in underdeveloped countries in Africa, and in some modern democracies in Europe. In Latin America the phenomenon is especially striking. After a decade of economic reform in the 1990s, a backlash against markets has been observed in most

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of the countries in that region. Such skepticism toward capitalism in poor countries is all the more remarkable because, presumably, voters in these countries have the most to gain from the more rapid growth that capitalism might achieve.

This paper makes two main points. First, we document that capitalism is indeed relatively more popular in rich than in poor countries. Second, we argue, both empirically and theoretically, that one motivation for such antipathy toward markets originates in the presence of corruption. Economists have connected regulation to corruption before, but with an emphasis on causality going the opposite way: from intrusive regulation to more corruption. We argue instead that in a reasonable theoretical model, causality will run in both directions.

Why should corruption invite more regulation? Our interpretation is that widespread or salient corruption causes voters to become upset with capitalists generally and to demand more regulation, higher taxes, or, more broadly, an economic system that is less favorable to business. To put it another way, corruption reduces the public's voluntary acceptance—the legitimacy—of a country's commercial institutions and their desire for a system in which capitalists might flourish. Voters who perceive corruption then vote for more regulation as a way of punishing the capitalists, whom they see as undeserving. Moreover, they do so even if the increased regulation generates still more corruption, slower growth, and other economic "bads"; they are willing to incur material costs to obtain outcomes that they see as more fair.

Borrowing from the political science literature on the legitimacy of political institutions, we argue that it is worthwhile for economists to study the legitimacy of a country's commercial institutions, defined as the extent to which there is social consent on the "purpose" of business. We formalize these ideas in a model in which voters expect business to refrain from making money through corrupt means. Given that certain characteristics, or "types," might be positively correlated across businesspeople within a country—for example, the degree to which they are or appear to be honest—corruption on the part of one may impose a negative externality on all, by inviting higher taxes and a less friendly regulatory environment for business. Targeted legal actions against capitalists who are perceived to be corrupt, such as those taken against the trusts during the administration of U.S. President Theodore Roosevelt a century ago, may address the externality by reducing the demand for widespread inefficient regulation.

We present three types of evidence to support our claims. First, we find that within a country (and hence for a given level of regulation), those who

perceive corruption to be high also tend to demand more regulation. Second, we find that over time, increases in corruption in a country precede increases in left-wing voting. And third, using data on reported emotions from the Gallup World Poll, we find that individual experiences of anger and the perception of business corruption are positively correlated, but that this correlation is weaker in countries where regulation that is detrimental to business is widespread.

Of course, the correlations we report may have different explanations from those we propose, but data limitations prevent us from constructing tight tests against these alternatives. Our strategy therefore is to offer some correlations that are suggestive of our proposed mechanism, and to present a model in which corruption plays a central role in eroding trust in the business community. Although our empirical approach is thus limited in its aims, it is sufficient to cast considerable doubt on a narrow version of the prevailing model in political economy, in which the only channel of causality is that going from regulation to corruption.

Beyond the empirical limitations, it is worth emphasizing that our paper deals with only a few of the many elements of capitalism, which range from policies on private versus state ownership of business to the extent of regulation and the level of taxation. Indeed, the theoretical mechanisms we propose and the data that are available to us refer to only some of these different aspects, and so we proxy "capitalism" with "policies that improve the economic and social standing of business."

The structure of the paper is as follows. Section I presents the evidence showing that attitudes and policies favorable to capitalism are not common around the world, and section II presents a brief taxonomy of possible explanations, including our main hypothesis, which is that corruption leads to the popular rejection of capitalism. Section III presents the main evidence from tests of that hypothesis, section IV discusses that evidence, and section V presents a model that offers an interpretation of the evidence. Section VI concludes.

I. Capitalism Does Not Flow to Poor Countries

This section presents and discusses evidence suggesting that policies and attitudes that can loosely be called pro-capitalist are not observed as frequently in poor countries as economists might expect.[1] We examine three types of evidence: party names and platforms that indicate the ideological leanings of those in power; surveys of popular opinion on the desirability

1. On economists' views of markets, see, for example, Blendon and others (1997).

of government ownership of business; and measures of the regulatory hurdles faced by those seeking to start a new company.

I.A. Political Rhetoric Is Tilted to the Left in Poor Countries

We start by comparing the rhetoric and platforms of political parties across rich and poor countries. One source of data is Thorsten Beck and others (2001), who use a two-step approach covering a maximum of 177 countries over 1975–95. First, they record the party identification of each country's political leaders, including the chief executive and the party currently in power in the legislature (or the largest party in a governing coalition). Second, they classify these parties according to their preferences regarding greater or less state control of the economy—the standard left-right scale. They infer these preferences from the party's name and from information on their platforms, taken from a set of standard sources. For example, party names containing words such as "Conservative" or "Christian Democratic" are classified as right-wing, and those containing words such as "Socialist" or "Social Democratic" as left-wing. The "center" category is reserved for parties that are explicitly called "centrist" or that the sources reveal as advocating the strengthening of private enterprise but also supporting a redistributive role for government.

The top panel of table 1 uses this classification system and data from a representative year to illustrate the relative prevalence of left- and right-wing governments. We classify countries into three income categories according to real purchasing power per capita, and by ideology according to the orientation of the largest party in government. The data suggest that electorally successful right-wing parties are more common in the top than in the bottom income group and that their frequency relative to left-wing governments is lowest among the poorest group. In other words, governments in poor countries are on average less supportive of capitalism than those in rich countries, as captured by a measure based on party names and platforms.

In a working version of this paper (Di Tella and MacCulloch 2002), we showed that this result is not affected when data for a longer sample period, or other periods, or other definitions of government ideology are used. Left-wing governments were more common in the early part of the longer sample than in the later part; however, in both periods right-wing governments were relatively more common in rich countries. This conclusion also holds after controlling for the influence of other variables (for example, the level of political rights as measured by Freedom House, an indicator for whether countries were experiencing civil war, and an indica-

Table 1. Selected Measures of Attitudes and Policies toward Capitalism, by Country Income, 1992–99

Measure	Country income tercile[a]		
	Top	Middle	Bottom
Ideological leaning of government, 1992 (percent of countries)[b]			
Right	60.0	45.7	15.3
Center	12.6	14.3	3.9
Left	27.4	40.0	80.8
No. of countries	40	35	26
Preference for greater private or state ownership of business, 1995 (percent of respondents)[c]			
Private	46.5	41.4	37.0
Neutral	30.6	23.6	21.9
State	22.9	35.0	41.1
No. of countries	20	22	8
Difficulty of registering a business, 1999[d]			
No. of procedures	7.9	11.4	12.2
Standard deviation	4.2	3.6	4.3
No. of countries	29	27	27

Sources: World Bank, World Development Indicators 1995; World Values Survey 1995; Djankov and others (2002).

a. Countries are classified according to real purchasing power per capita.

b. As determined by the authors using the ideology of the largest party in government, according to the classification scheme of Beck and others (2001).

c. Respondents in the 1995 wave of the World Values Survey were asked, "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. Sentences: Private ownership of business should be increased [left side]; Government ownership of business should be increased [right side]." A response of 1, 2, 3, or 4 is classified as a preference for private ownership; a response of 5 or 6 as neutral; and a response of 7, 8, 9, or 10 as a preference for state ownership. The panel is based on 70,986 individuals.

d. Measured by the number of different procedures that a business start-up has to comply with in order to obtain legal status.

tor for the level of income inequality). Omitting data from countries that were in the Soviet bloc before 1990 likewise does not affect the results. It is worth noting that countries with more unequal distributions of income tend to elect right-wing parties. This point, which has been made informally in contrasting the United States and Europe, is the starting point of Thomas Piketty's (1995) analysis and, to our knowledge, has not been documented before for a wider range of countries.

I.B. Beliefs about Private versus Government Ownership of Business

Cross-country survey data on people's opinions about various elements of capitalism are available from the World Values Survey (WVS). Coordinated by Ronald Inglehart, the 1995 wave of this survey asked adults

in over 50 countries several questions of interest.[2] One that is directly relevant to this paper concerns the desirability of increasing the private ownership of business:

> 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. Sentences:

> Private ownership of business and industry should be increased.   Government ownership of business and industry should be increased.

We categorize those giving answers from 1 to 4 as favoring private ownership, those giving answers from 7 to 10 as favoring state ownership, and those in between as having centrist views.[3]

The middle panel of table 1 presents the results. It shows that 46.5 percent of respondents in countries in the top third of the world income distribution favor increasing private ownership of business and industry, whereas only 22.9 percent favor increasing government ownership. The proportion favoring private ownership decreases monotonically, and that favoring government ownership increases monotonically, as one reads across the columns. In other words, support for capitalism is weaker in poorer countries, as captured by the prevalence of attitudes favoring increasing government ownership of business and industry.

I.C. Regulation of Entry as a Proxy for Prevalence of Capitalism

An alternative approach is to move beyond rhetoric and beliefs and observe whether the policies actually implemented in poor countries are interventionist. We focus on the hurdles in place to start a new business as a proxy for the prevalence of capitalism. Simeon Djankov and others (2002) collected data in various countries on the amount of time, number of screening procedures, and total number of procedures required to register a business.[4] These are defined, respectively, as the number of business days

2. Although national random sampling and quota sampling were used, the populations of China, India, and Nigeria, as well as rural areas and the illiterate population in countries generally, were undersampled.

3. Ideally, the data would refer to levels of government intervention rather than simply ownership, but these data are nonetheless useful, particularly in conjunction with data showing that poor countries on average already have more government ownership of business than do rich countries.

4. "Screening procedures" is a subset of the total number of procedures; Djankov and colleagues also collected data on the cost to a firm of obtaining legal status, which we do not include in our analysis.

"it takes to obtain legal status to operate a firm"; "the number of different steps that a start-up has to comply with in order to obtain a registration certificate that are not associated with safety and health issues, the environment, taxes, or labor"; and "the number of different procedures that a start-up has to comply with in order to obtain a legal status, i.e., to start operating as a legal entity" (Djankov and others 2002, p. 16).

The bottom panel of table 1 shows that the total number of procedures required for a start-up company to obtain legal status is monotonically increasing across country income terciles from richest to poorest. Other measures (not reported in the table) display a similar pattern. GDP per capita is negatively associated with the number of days (the correlation is −0.47), number of steps (−0.50), and number of procedures (−0.48) required to start a business; all three correlations are significant at the 1 percent level. In other words, the legal environment in poorer countries tends to be less favorable to capitalism, as captured by the amount of regulation in place that makes it harder for entrepreneurs to start a business.

I.D. Are There Counterexamples in Latin America?

Some well-known cases in Latin America appear to be counterexamples to the pattern just described. The "Chicago School" reforms in Chile in the 1970s and 1980s and the administration of President Carlos Menem of Argentina in the 1990s are two cases in point of pro-market governments in developing countries. Closer inspection, however, suggests that these episodes, too, conform to the general pattern. The "Chicago boys" were able to implement their policies only after the military government of General Augusto Pinochet took power. Indeed, a standard informal justification often invoked for military coups in Latin America in the 1970s was that they were the only way that "reasonable" (conservative, nonpopulist) ideas could be implemented, given their weak electoral appeal.

In Argentina the center-left Radical and Peronist parties have alternated in government (except when the military was in power) for almost a century. The Peronists are often labeled right-wing because of the role of fascism in shaping the ideology of the party's founder, Juan Perón. Yet over the last century the labor share of output has been highest under Peronist administrations, and the Peronist march speaks of "fighting capital." Similarly, it is claimed that the Menem administration in the 1990s turned right-wing, which is a plausible interpretation of Menem's policies but does not deny the fact that he was elected on a populist platform that included a massive general wage hike (the *salariazo*). Indeed, "neoliberal" reforms in Latin America have seldom been part of candidates' electoral

platforms, and when they were, as in the case of Mario Vargas Llosa's presidential campaign in Peru in 1990, they failed. The pattern of pro-market reforms by unlikely candidates in Latin America is surprisingly widespread: all of the cases described by Susan Stokes (2001) in which actual policies did not match the candidate's electoral promises involved the implementation of *"efficiency-oriented policies* of market competition" instead of the promised *"security-oriented policies* of state intervention."[5]

II. Four Possible Explanations

The question posed in our title has a number of possible answers. In this section we briefly mention three that appear plausible before offering a fourth that, in our view, better accounts for the observed pattern.

II.A. The Capture Hypothesis

According to the capture hypothesis, people want capitalism but their wishes are blocked by entrenched interest groups who deliver bribes (and perhaps issue threats) to politicians in exchange for regulations that favor them. This is close to the consensus explanation among economists today. The related "tollbooth" theory explains regulations as being designed by self-interested politicians and bureaucrats to help them extract bribes.[6] Note, however, that if corruption enables unpopular regulation, there is no reason why more corruption would lead voters to desire more regulation, as our findings in this paper suggest.

II.B. The Learning Hypothesis

The learning hypothesis holds that people reject capitalism because they fail to understand its benefits. Of course, if people are assumed to make such gross mistakes, it is hard to see how markets that rely on rationality could be good for welfare. A more appealing version is that people are in

5. Stokes (2001, p. 2). A well-known case of a conservative politician veering left once in power is that of U.S. President Richard Nixon, who initiated diplomatic relations with communist China; however, this case is again consistent with the general pattern, as Nixon was the president of a rich country.

6. Standard references include Tullock (1967), Stigler (1971), and Peltzman (1976). On the tollbooth theory, see McChesney (1987), De Soto (1989), and Shleifer and Vishny (1993). More recently, Parente and Prescott (1999) cast these ideas in terms of technology adoption by monopolists, Rajan and Zingales (2003) do so with attention to public confusion over the economic cycle, and Acemoglu and Robinson (2000) with an emphasis on political power.

the process of learning the correct model, because it is possible in principle that capitalism is not the superior system and that in many circumstances a more heavily regulated economy will actually maximize welfare. Evidence of the superiority of capitalism, in this version, has been accumulating and is known to economists but has not yet reached the voters. Here the seminal paper is Piketty (1995), who proposes a model in which economic agents seek to understand, in the presence of shocks, the connection between work effort and income before deciding on the level of personal taxation. These agents cannot observe other people's choices regarding effort, nor can they infer them from occupational choices, and so they experiment until they settle on the likely value of the parameter (incomplete learning).[7]

II.C. Socialism Is Good

The third hypothesis argues that people reject capitalism because socialism is in fact better for them. Although the observed failure of some forms of socialism reduces the appeal of this hypothesis (at least in the extreme version), the experience with capitalism of some former communist countries after the collapse of the Berlin Wall has not been impressive either. In fact, the evidence of prolonged economic disorganization after 1989 in some Eastern European countries suggests a related hypothesis: people know how well capitalism works once the state has been developed to the point where it can provide adequate institutional support, but they also know that this might take a long time. In that case, if their discount rate is sufficiently high, people may in fact be better off under socialism. The evidence collected by Olivier Blanchard and Michael Kremer (1997) is consistent with this view. A less extreme view is that a certain amount of regulation or taxation is necessary to help markets function efficiently, for example by addressing externalities, but that this can be accomplished without necessarily abandoning capitalism altogether. (This is sometimes called the "public interest theory" of regulation.) However, to serve as an explanation, this theory has to contend with survey evidence that a majority of voters in rich countries like the United States do not want for themselves the higher levels of government ownership and taxation observed in many poorer countries.

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7. For a related discussion in the context of trade policy, see Sachs and Warner (1995) and Buera, Monge-Naranjo, and Primiceri (2008). For evidence on the connection between shocks (crime, oil, or macroeconomic) and pro-market beliefs, see Di Tella, Donna, and MacCulloch (2007, 2008), Di Tella, MacCulloch, and Dubra (forthcoming), and Giuliano and Spilimbergo (2008). On the relationship between the size of a country and the beliefs prevalent within that country, see Alesina and Glaeser (2004).

No doubt other possible hypotheses might be offered to the question posed in our title. But even within the subset discussed, clear evidence in any one direction is lacking (it would be hard to provide definitive tests), and so there is no clear consensus. Instead we propose another hypothesis, explore its logic, and provide some suggestive evidence in its favor. We call it the "unpleasant capitalists" hypothesis.

II.D. Unpleasant Capitalists

According to the "unpleasant capitalists" hypothesis, people reject capitalism because it favors a set of individuals whom they do not like. Although they understand that capitalism would make them better off economically, they would rather introduce regulations and taxes that punish a group of people whom they consider "bad," and they are unhappy when they observe capitalism conferring benefits on these people. Note that this hypothesis requires that people have other objectives in addition to maximizing their own material payoff, unlike what standard economic models assume.

One possible origin of this hostility toward capitalists is a history of corruption in the country: it is easy to dislike the elite of a poor country if they are perceived to have profited from government contracts awarded through corruption and favoritism. In contrast, in a rich country it might be easier to credit the economic elite with genuine wealth creation in the form of new products, greater efficiency, and the like. A related idea is that in some countries capitalists are associated with a hostile foreign power, for example a former colonial master—indeed, we have found some evidence consistent with this idea (results not reported). Such a history could lead to a similar degree of hostility toward "undeserving" capitalists even without the perception of corruption.[8]

The general idea behind the unpleasant capitalists hypothesis is related to Max Weber's notion of social legitimacy, but as applied to commercial institutions instead of the state. Weber (1978) described nonmaterial considerations, such as fairness, as giving legitimacy to certain relationships, leading individuals to accept them voluntarily, sometimes even against their own material interest.[9] Research in economics on the "ultimatum game" makes a related point. People appear willing in some circumstances to "burn money" (that is, to reject insulting offers), implying that the material payoff is not their sole objective. And, importantly, in some

8. Four related papers are Aghion and others (2009), Alesina and Angeletos (2005), Landier, Thesmar, and Thoenig (2008), and Panizza and Yañez (2005).

9. See also the work in political psychology on system justification by Jost and Banaji (1994).

variations of this game the "standing" of the proposer of the offer influ-ences the outcome.[10] As in the capture hypothesis above, there is a connec-tion between corruption and government intervention, but only under the unpleasant capitalists hypothesis would one expect to observe a stronger public desire to regulate when corruption is greater. Another similarity with the capture hypothesis is that the subgroup of the population that votes can be considered an interest group affecting regulation (although here they are not just maximizing their income).[11]

III. Corruption Reduces the Appeal of Capitalism: Some Suggestive Evidence

Our hypothesis is that lack of capitalism in poor countries is connected to, and is at least in part due to, the existence of widespread corruption in such countries.[12] In a simple cross section of countries, Beck and others' (2001) measure of left-wing government is significantly positively correlated with corruption.[13] Of course, such a simple cross-country result could be

10. For example, when Hoffman and others (1994) assigned roles to subjects according to their performance on a general knowledge quiz, proposers became more aggressive in their offers. In research reported by Ruffle (1998), recipients competed on a task affecting the size of the pie in a dictator game. Allocators rewarded skillful recipients more gener-ously, even at the cost of accepting a lower material payoff for themselves. This research also shows that offers to skillful recipients are motivated by a taste for fairness and not by strategic considerations. In Ball and others (2001), the status of participants in a certain mar-ket was determined in two different ways: in one, status was assigned according to subjects' scores on a trivia quiz, whereas in the other, status was randomly assigned. (The assign-ments were observed by all participants.) Prices (and market surplus) favored the high-status person under *both* conditions. Rose-Ackerman (2002) discusses the impact of grand corrup-tion on the "social contract." On consent to taxation, see Levi (1988).

11. This differs from existing normative models of regulation in that it does not need to assume that the objective is to maximize consumption, or that the full population is being counted. Note that a challenge to these models is to explain why people bother voting at all. (For a start, see the model of altruistic voters of Rotemberg forthcoming.) Several normative models of regulation have made the point that the optimal amount of intervention can change in the presence of corruption (see, for example, Ades and Di Tella 1997; Banerjee 1997; and Glaeser and Shleifer 2003 as well as work by sociologists and political scientists on state capacity, such as Evans, Rueschemeyer, and Skocpol 1985 and Woo-Cummings 1999).

12. That corruption is indeed extensive in poor countries is documented by, for exam-ple, Mauro (1995) and Knack and Keefer (1995).

13. This finding is robust to the inclusion of other covariates including GDP per capita, income inequality, and dummies for the dominant religion, a recent history of war, and a his-tory of communist rule. The variable measuring right-wing beliefs is positively correlated with income inequality, consistent with the empirical problems of the basic economic model (Meltzer and Richard 1981). For work on the varieties of capitalism, see, for example, the contributions in Hall and Soskice (2001).

explained by government intervention causing corruption. In this section we present evidence suggesting that this cannot be the whole story. Although the evidence is not conclusive and is often open to alternative interpretations, it nonetheless presents a pattern that is highly unlikely to emerge if the capture hypothesis were the only channel connecting corruption and regulation.

To explore whether corruption also creates a demand for government intervention, we use three types of data. First, we use aggregate (country-level) data on corruption and the ideology of government to show that surges in a country's corruption index typically precede the election of left-wing governments, but that ideology lagged is uncorrelated with corruption. Given the quality of the data, this is, of course, only suggestive evidence for the hypothesis that corruption causes regulation.

Second, we use survey data to study the correlation between ideological beliefs and the perception of corruption across people within a country at a point in time. We look at both ideological self-placement on a left-right scale and beliefs about the desirability of increasing private (relative to government) ownership of business and industry. The finding of a correlation would be consistent with either of two alternative hypotheses: that a sensibility that makes one prone to observe corruption and a desire for more regulation are fixed traits of left-wing individuals; and that observing corruption causes people to become more left-wing. However, such evidence is difficult to reconcile with a world where only the capture theory is important in explaining the prevalence of left-wing policies.

Third, we study the correlation between self-reported experiences of anger (from the 2006 Gallup World Poll) and the perception of corruption within countries. Of course, anger could lead people to vote for less regulation instead of more. Thus, we estimate the correlation in high- and low-regulation countries separately. A lower correlation in a high-regulation sample would be consistent with the hypothesis that the observation of corruption angers people, but that the presence of regulation that interferes with business dampens this reaction. Under the assumption that voters prefer not to experience anger, this evidence suggests the possibility that corruption causes regulation.

Although economists have recently begun considering the use of measures of well-being as summary measures of utility, data on individual emotions (which may or may not aggregate into a consistent measure of well-being) may also have research value. Anger is an obvious candidate for researchers interested in political economy. Psychologists have gathered extremely useful evidence for our purposes showing that anger appears to be associated

with two conditions: the belief that others (as opposed to the situation or one-self) were responsible for some undesirable outcome; and that redress is still possible (and the self can still influence the situation).[14] Jennifer Lerner and Larissa Tiedens (2006) discuss evidence showing that anger makes people indiscriminately punitive (and optimistic about their own chances of success at punishing the guilty). Interestingly, anger does not seem to be just a per-sonality trait of left-wing individuals: Deborah Small and Lerner (2008) find that individuals induced to feel anger choose to provide less public assistance to welfare recipients than those induced to feel other emotions.[15]

III.A. Corruption and Left-Wing Government
over Time within Countries

Table 2 reports correlations between Beck and others' (2001) measure of government ideology and the aggregate (country-level) corruption index data from the *International Country Risk Guide,* taken from Stephen Knack and Philip Keefer (1995). The corruption variable is available for the period 1982–94 and measures analysts' opinions of the extent of corruption in a country. The estimates are derived from panel regressions using the Arel-lano and Bond (1991) two-step generalized method of moments (GMM) estimator for dynamic panel datasets that controls for unobserved effects. Our measure of a government's ideological stance uses the number of leg-islative seats held by parties of a given ideology: we assign each country's government a value of −1, 0, or 1 according to whether the largest govern-ment party is on the right, center, or left, respectively, using as weights the proportion of seats that the party holds in the legislature. Similar results are obtained when other available definitions are used. We measure time in four-year periods, since four years is the most common duration of electoral terms in our sample. Each observation thus approximates one election cycle in one country; similar results are obtained when the unit of time is one year (and when ordinary least squares is the estimation method).

The results of regressing the ideology measure on the first lag of the corruption measure (first column of table 2) show that increases in corrup-

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14. See Smith and Ellsworth (1985), Lazarus (1991), and the review by Lerner and Tiedens (2006). A focus on anger is preferable in this context because other negative emo-tions follow alternative appraisals: sadness (rather than anger) follows negative events that are blamed on situational forces, whereas shame follows such events that are seen as one's own personal responsibility. Rotemberg (2005) connects anger to macroeconomic phenomena.

15. See also Bodenhausen, Sheppard, and Kramer (1994) on stereotyping and Goldberg, Lerner, and Tetlock (1999) on punishment.

Table 2. GMM Regressions Relating Left-Wing Government Ideology to Corruption[a]

	Dependent variable	
Independent variable	*Left-Wing Government Ideology[b]*	*Corruption[c]*
Left-Wing Government Ideology lagged one period	0.74** (0.22)	−0.06 (0.10)
Corruption lagged one period	0.10* (0.05)	0.31** (0.16)
GDP per capita lagged one period[d]	−0.16 (0.18)	−0.34 (0.31)
Wald χ^2 (3)	38.4	4.3
z value of Arellano-Bond test for zero autocorrelation in first-differenced errors[e]	−1.5 Probability > z = 0.14	1.1 Probability > z = 0.29

Sources: Beck and others (2001); Political Risk Services, *International Country Risk Guide;* World Bank, World Development Indicators 1995; authors' regressions.

a. The table reports results of Arellano-Bond two-step GMM dynamic panel data estimations, controlling for unobserved effects. Data are 137 panel observations from 72 countries and 3 four-year periods over 1982–94. Standard errors are in parentheses. Asterisks denote statistical significance at the *10 percent and **5 percent level.

b. Left-Wing Government Ideology is defined as the orientation of the largest party in government, which is classified as either right-wing, centrist, or left-wing and assigned the value −1, 0, or 1, respectively; this value is then weighted by the proportion of seats that the party holds in the national legislature.

c. As measured by the *International Country Risk Guide* country corruption index. The index ranges from 0 to 6 (higher numbers indicate greater corruption in our rescaling) and is based on the opinions of country experts as to the extent to which "high government officials are likely to demand special payments" and "illegal payments are generally expected throughout lower levels of government" in the form of "bribes connected with import and export licenses, exchange controls, tax assessments, police protection, or loans."

d. Adjusted for purchasing power parity in constant 1992 dollars and multiplied by 10,000 for ease of reporting.

e. The test reports whether the null hypothesis of zero autocorrelation can be rejected. In both columns the null is not rejected at the 10 percent level of significance.

tion tend to precede increases in the political representation of left-wing parties. The size of the estimated coefficient on the corruption variable (0.10) implies that a 1-standard-deviation increase in corruption (1.5 on a 0–6 scale) corresponds to a change of 25.9 percent of a standard deviation in the government's ideology [= (1.5 × 0.10)/0.58, where 0.58 is the standard deviation of government ideology]. For comparison, the second column reports the symmetrical exercise, regressing corruption on the first lag of the ideology measure; the results indicate that increases in left-wing representation in government do *not* tend to precede increases in corruption—the estimated coefficient does not achieve statistical significance.

III.B. Perceptions of Corruption and Ideology across Individuals within Countries

The data we use to investigate individual perceptions come from the 1995 wave of the WVS, which includes three questions that are relevant to our investigation. The first two broadly capture a desire for regulation. The first of these concerns ideological self-placement: "In political matters, people talk of 'the left' and 'the right'. How would you place your views on this scale, generally speaking?" The interviewer then shows the respondent a 1–10 scale, with "Left" written below the number 1 and "Right" below 10. We construct a dummy variable called Left-Winger, which takes the value 1 if the answer is either 1, 2, 3, 4, or 5, and zero otherwise; similar results are obtained when we use information on each of the 10 categories. The second question is that discussed in section I concerning the desired form of ownership of business. The dummy variable Public Ownership captures the respondent's desire for an increase in public ownership of business, taking the value 1 if the answer is 6, 7, 8, 9, or 10 and zero otherwise; again, similar results are obtained when we exploit all 10 categories.

The third question of interest asks about the respondent's perception of corruption in government: "How widespread do you think bribe taking and corruption is in this country?" The four possible responses are "almost no public officials are engaged in it"; "a few public officials are engaged in it"; "most public officials are engaged in it"; and "almost all public officials are engaged in it." Because only 4 percent of respondents gave the first answer, we merged the first two categories; thus, we have three variables for perception of corruption—Few Corrupt, Most Corrupt, and All Corrupt—each taking the value 1 according to the respondent's answer. None of our substantive conclusions depends on our collapsing of the first two categories.

Table 3 reports results of our analysis of the responses of more than 50,000 people in 46 countries who answered the questions of interest. We estimated probit regressions of the following form:

$$(1) \qquad Y_{ij} = a\big(\text{Most Corrupt}_{ij}\big) + b\big(\text{All Corrupt}_{ij}\big) + c\big(\text{Personal Income}_{ij}\big)$$
$$+ d\big(\text{Country}_j\big) + \varepsilon_{ij},$$

where Y_{ij} is, alternatively, the Left-Winger or the Public Ownership variable for individual i living in country j, Country$_j$ is a country dummy, and ε_{ij} is a standard error term that is independent and identically distributed (i.i.d.).

The first column of table 3 shows a positive and significant correlation within countries between the perception of corruption and Left-Winger. This result survives the exclusion of income as a control as well as the

Table 3. Probit Regressions of Ideological Orientation on Perceptions of Corruption[a]

	Dependent variable			
	Whole sample		U.S. sample only	
Independent variable	*Left-Winger*[b]	*Public ownership*[c]	*Left-Winger*	*Public ownership*
Most Corrupt[d]	0.03***	0.006	0.09***	0.005
	(0.006)	(0.006)	(0.032)	(0.02)
All Corrupt[e]	0.06***	0.02***	0.11***	0.02
	(0.007)	(0.006)	(0.04)	(0.03)
No. of observations	44,962	53,182	1,182	1,273
	(45 countries)	(46 countries)		
Pseudo-R^2	0.03	0.08	0.01	0.02

Sources: World Values Survey 1995; authors' regressions.

a. The table reports the marginal effect of moving from one level of perception of corruption to the next higher one on the probability that the respondent will hold left-wing views or favor public ownership of business. Data are survey responses from the 1995 wave of the World Values Survey. All regressions include country dummies and control for household income using dummy variables for each third of the sample income distribution. Standard errors are in parentheses. Asterisks indicate statistical significance at the ***1 percent level.

b. Dummy variable equal to 1 if the answer to the following question is 1, 2, 3, 4, or 5, and zero otherwise: "In political matters, people talk of 'the left' and 'the right'. How would you place your views on this scale, generally speaking?" (The interviewer then shows a scale with the numbers 1 to 10, with the word "Left" below 1 and "Right" below 10.)

c. Dummy variable equal to 1 if the answer to the following question is 6, 7, 8, 9, or 10, and zero otherwise: "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." (The interviewer shows a scale of numbers with "Private ownership of business and industry should be increased" on the left and "Government ownership of business and industry should be increased" on the right.)

d. Dummy variable equal to 1 if the respondent chose the third answer to the following question, and zero otherwise: "How widespread do you think bribe taking and corruption is in this country? 1. Almost no public officials are engaged in it. 2. A few public officials are engaged in it. 3. Most public officials are engaged in it. 4. Almost all public officials are engaged in it."

e. Dummy variable equal to 1 if the respondent chose the fourth answer to the above question, and zero otherwise.

inclusion of a wider set of personal characteristics such as sex, age, age squared, marital status, occupation, employment status, education, and other measures of income (although the sample size drops somewhat). The personal controls enter with the signs that one might expect: for example, people with higher incomes and men tend to lean ideologically toward the right. The key coefficients on the dummies capturing the perception of corruption are monotonic, large, and precisely estimated. To obtain a simple measure of the size of the effect, we report the coefficients in terms of marginal probabilities. A causal interpretation suggests that moving from a situation where people perceive little or no corruption to a situation where all

officials are perceived to be corrupt raises the probability of self-placement on the left of the political spectrum by 6.1 percentage points. (But see below for an alternative interpretation.)

The second column of table 3 reports analogous results for our second dependent variable, Public Ownership. The correlation of this variable with Most Corrupt is also positive and significant, suggesting that people who perceive more corruption tend to want to see an increase in government ownership of business and industry. Similar results are obtained with other measures of economic attitudes available from the WVS; the perception of corruption is also positively correlated with the perception that the poor are unlucky (rather than lazy) and the belief that government should reduce income differences (results not reported).[16] The third and fourth columns of table 3 repeat the exercise restricting the sample to the United States, with similar results (although less precisely estimated).

As noted above, two interpretations of this correlation are possible. One of these is causal: people who observe an increase in corruption change their beliefs toward the left. The second is not causal, but instead holds that the first regression reported in table 3 simply identifies a fixed trait of left-wingers, namely, that they tend to see corruption everywhere. In either case, however, a surge in a country's level of corruption would lead to an increase in support for left-wing parties. In the first case the reason is obvious. To understand the second, consider a model of voting behavior involving competition between a right-wing and a left-wing candidate (who display their ideologies as fixed traits) for the vote of an uninformed public. When an exogenous upward shock to corruption takes place (is reported in the media, for example), the public notes that, at least on this issue, the left-wing candidate, who has been vociferating against corruption, has been correct all along. This makes it more likely that the public will think highly of the left-wing candidate from then on.[17]

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16. The laziness question is, "Why, in your opinion, are there people in this country who live in need? Here are two opinions: Which comes closest to your view? 1. They are poor because of laziness and lack of will-power, [or] 2. They are poor because they are unlucky or society treats them unfairly."

17. Interestingly, the perception of corruption exhibits a nonsystematic pattern with certain noneconomic beliefs: for example, it is positively correlated with the view that homosexuality is never justifiable, which presumably is a trait of the politically conservative. These results are discussed in detail in Di Tella and MacCulloch (2002). A difficult question is why certain beliefs often appear in bundles: for example, conservatives tend to believe both that effort pays and that abortion is wrong. For an attempt to explain part of this phenomenon through the use of metaphor, see Lakoff and Johnson (1980). For a review, see Feldman (2003).

Note that the perception of corruption could refer to either of two different types of corruption: government corruption (that is, extortion), which is typically initiated by a bureaucrat or politician with authority over a firm that would otherwise be honest; and business corruption (that is, capture), which is typically initiated by a firm approaching a bureaucrat or politician to seek a favorable change in the law. Corruption of the capture variety is likely to be the more damaging of the two to the legitimacy of business.[18]

Finally, the "unpleasant capitalists" hypothesis would also predict that the strength of the correlation between observing corruption and demanding more regulation will depend on the level of regulation already in place. There are two possible reasons. First, voters might realize that regulation causes corruption (and other "bads") so that their advocacy of more regulation as a punishment for capitalists is limited by the material costs of this strategy. Second, when regulation is high, acts of corruption may be considered more justifiable: voters may judge that firms had little choice but to bribe their way out of the morass of regulations. (Our model in section V makes this more precise.) Moreover, in high-regulation environments any corruption that might be observed is likely to be interpreted as extortion rather than capture. A simple suggestive test is to repeat the regressions in table 3 but to split the sample into high-, middle-, and low-regulation countries using Djankov and others' (2002) measure of the number of procedures that a start-up has to comply with in order to obtain legal status. We define a low-regulation country as one where this number is less than 9, and a high-regulation country as one where it is greater than 12.

Table 4 summarizes the main coefficients of interest when we reestimate the basic Left-Winger regression in the first column of table 3 separately for the low-regulation and high-regulation samples. In both samples a higher perception of corruption increases the probability of voting left, but the effect is smaller in the high-regulation countries: the coefficient on the All Corrupt variable is more positive for the low-regulation countries

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18. In practice, the distinction between capture and extortion is blurred, because a firm being extorted may in turn convince the bureaucrat to deliver other favors, which may harm competitors. Often a firm that submits to extortion is not legally responsible for bribery. One question in the WVS does not talk about business explicitly but instead mentions "big interests" (and yields stronger results). It asks, "Generally speaking, would you say that this country is run by a few big interests looking out for themselves, or that it is run for the benefit of all the people? 1. Run by a few big interests. 2. Run for all the people."

Table 4. Probit Regressions of Ideological Orientation on Perceptions of Corruption, by Country Level of Regulation[a]

Independent variable[b]	Dependent variable: Left-Winger	
	Low-regulation sample	High-regulation sample
Most Corrupt	0.06	0.02
	(0.01)	(0.008)
All Corrupt	0.09	0.04
	(0.02)	(0.009)
No. of observations	8,450	22,609
	(9 countries)	(22 countries)
Pseudo-R^2	0.02	0.04

Sources: World Values Survey 1995; Djankov and others (2002); authors' regressions.

a. The dependent variable is the dummy variable for left-wing orientation described in table 3, note b. The table reports the marginal probability of moving from one level of perception of corruption to the next higher level on the probability that the respondent will hold left-wing views. Data are survey responses from the 1995 wave of the World Values Survey. Regressions include country dummies and control for household income as described in table 3. Standard errors are in parentheses. All results are statistically significant at the 1 percent level.

b. See table 3, notes d and e, for definitions.

(0.09) than for the high-regulation countries (0.04), and the difference is significant at the 1 percent level. Similar results are obtained when Public Ownership is the left-hand-side variable (results not reported). The perception of corruption in the low-regulation countries increases the probability that a respondent will support more government ownership, whereas the correlation between perception of corruption and Public Ownership in the high-regulation countries is insignificant: the difference in the size of the effect across the two samples is also significant at the 1 percent level.

III.C. Anger at Corruption and the Demand for Regulating Capitalists

Our final empirical exercise uses survey data on emotions from the 2006 Gallup World Poll to examine whether people who perceive corruption in business are more likely to experience anger. The results reveal a positive correlation, which, importantly, is weaker where business is heavily regulated. The Gallup data have separate measures for an individual's perception of business corruption (which we interpret as capture) and of government corruption (which we interpret as extortion). Our Anger dummy variable is assigned a value of 1 when an individual reports having

felt this emotion "a lot" during the day before the interview. We estimate the following probit regression:

$$
\begin{aligned}
(2) \quad \text{Anger}_{ij} = {} & a\left(\text{Government Corruption}_{ij}\right) + b\left(\text{Business Corruption}\right)_{ij} \\
& + c\left(\text{Regulation}_{j}\right) + d\left(\text{Government Corruption}_{ij}\right. \\
& \left. \times \text{Regulation}_{j}\right) + e\left(\text{Business Corruption}_{ij} \times \text{Regulation}_{j}\right) \\
& + f\left(\text{individual controls}_{ij}\right) + \varepsilon_{ij},
\end{aligned}
$$

where Government Corruption takes the value 1 for a positive answer to the question, "Is corruption widespread throughout the government in this country?" and Business Corruption takes the value 1 for a positive answer to the question, "Is corruption widespread within businesses located in this country?" We use two proxies for Regulation, called Number of Procedures and Time to Register, defined as in section I.C. These are objectively defined, measured at the country level, and correlated with other measures of government regulation or intervention in the economy (see Djankov and others 2002). We also test whether the correlation between corruption and anger differs according to the extent of regulation in place. The full sample consists of 68,587 observations across 80 countries worldwide. Number of Procedures is scaled down by a factor of 10, and Time to Register by a factor of 100, for ease in reporting the results.

   To interpret the results in the first column of table 5, consider a country where 11 regulatory procedures (the sample average) are necessary to start a business. The observation of business corruption is associated with a 4-percentage-point increase in the probability that an individual experienced anger the previous day (from the coefficient on Business Corruption) less the 3.3-percentage-point (= 0.03 × 11) effect due to the negative and significant interaction term between Business Corruption and Number of Procedures. Consequently, the net effect of business corruption in the presence of these regulatory procedures is to increase anger by an (insignificant) 0.7 percentage point. The effect of observing government corruption is different, at least to the extent that it has an insignificant interaction with the number of procedures. Note that the standard deviation of the number of procedures is 4.5, with a range from 2 to 21, and the average share of respondents reporting anger across the countries in our sample is 19.3 percent.

   To interpret the results in the second column, consider a country where 48 business days (again the sample average) are required to set up a business. The observation of business corruption is again correlated with a

Table 5. Probit Regressions of Respondent-Reported Anger on Measures of Corruption and Regulation[a]

Independent variable	Dependent variable: Anger	
	5-1	5-2
Government Corruption[b]	0.05***	0.03***
	(0.01)	(0.01)
Business Corruption[c]	0.04***	0.04***
	(0.01)	(0.01)
Number of Procedures[d]	−0.01	
	(0.008)	
Government Corruption × Number of Procedures	−0.02	
	(0.01)	
Business Corruption × Number of Procedures	−0.03***	
	(0.01)	
Time to Register[e]		−0.04***
		(0.01)
Government Corruption × Time to Register		−0.02
		(0.01)
Business Corruption × Time to Register		−0.06***
		(0.01)
No. of observations	68,587	68,587
	(80 countries)	(80 countries)
Pseudo-R^2	0.04	0.04

Sources: Gallup World Poll 2006; Djankov and others (2002); authors' regressions.

a. The dependent variable is a dummy variable equal to 1 if the respondent answered yes to the following question, and zero otherwise: "Did you experience the following feeling during a lot of the day yesterday? How about anger?" The table reports the coefficients of the explanatory variables in terms of marginal probabilities. Both regressions include a control variable measuring the respondent's "satisfaction with standard of living." Data are 68,587 observations from 80 countries surveyed in 2006. Standard errors clustered at the country level are in parentheses. Asterisks indicate statistical significance at the ***1 percent level.

b. Dummy variable equal to 1 if the answer to the following question is positive, and zero otherwise: "Is corruption widespread throughout the government in this country?"

c. Dummy variable equal to 1 if the answer to the following question is positive, and zero otherwise: "Is corruption widespread within businesses located in this country?"

d. Number of different procedures (divided by 10 for ease of reporting) that a start-up has to comply with in order to obtain legal status in the country.

e. Number of business days it takes to obtain legal status to operate a firm, divided by 100 for ease of reporting.

4-percentage-point higher chance that an individual experiences anger, less the 2.9-percentage-point (= 0.06 × 48) effect due to the negative and significant interaction term between Business Corruption and Time to Register. In this case the net effect of business corruption is to increase anger by an (again insignificant) 1.1 percentage points. Government corruption, on the other hand, has an insignificant interaction with Time to

Register. Note that the standard deviation of the latter variable is 31, and the range is from 2 to 152.[19]

IV. Discussion

Our interpretation of these results is that corruption, especially in the form of capture, reduces the legitimacy of business and commercial institutions. When people observe corruption, they may believe that the rich are less "deserving" and become less accepting of their privileges. This makes populism, or, more precisely, voting in favor of inefficient regulation or taxes, more likely, much as when players in an ultimatum game reject positive offers. Alternatively, voters may experience anger when they see businesspeople earning their positions through bribes or other illegitimate means, and they are placated when business is regulated.

Perhaps the main weakness of the unpleasant capitalists approach is that it requires auxiliary hypotheses to explain the precise type of intervention observed. Capitalists can be punished through a variety of means, and we lack strong arguments to explain why voters would choose more regulation when less inefficient forms of punishment, such as redistributive taxation (without affecting the production process), are available. While leaving a full investigation for future research, we provide here some tentative answers. The first is to note that taxation without regulation leaves businesspeople with a high position in the social hierarchy, whereas stronger regulation and control of business send a more direct message that business's status is diminished. (If this is the true explanation, one would also expect to see it reflected in other aspects of society, such as the extent of conspicuous consumption by businesspeople.) A second possible explanation is that the pre-tax income distribution in a free-market economy with corruption might be perceived as too unfair, requiring economy-wide tax rates so high as to discourage effort (or encourage evasion). Such deadweight losses from taxation might be avoided if the actions that businesspeople can take are limited by regulation at the production stage in certain sectors. A third explanation is that taxation might be less observable to the public than regulation. It is worth noting that more regulation is likely to

19. We also investigated the effects of corruption and regulation on other emotions: regressing love on corruption, regulation, and their interaction yields no significant coefficients on any of these variables, and regressing joy on these same variables yields no significant coefficients on business corruption or the interaction terms. This accords with the view of psychologists that these emotions, although significantly negatively correlated with anger, capture emotions related to different kinds of events.

prevent more competition and to be associated with higher rents to incumbent firms. One problem here is that it may be difficult for the public to perceive this kind of effect. And, of course, introducing competition, for example by allowing foreign entry, might also benefit incumbents by providing them an opportunity to sell their companies to the new entrants. Thus, a proposal for *less* regulation is ostensibly even more favorable to business. Finally, some types of mental processes (for example, "categorical thinking" as in Mullainathan and Shleifer 2006) could lead to the grouping of policies into bundles (for example, high taxes, high regulation, and a high level of state ownership; see also footnote 17).

An even more difficult problem is that voters would be better off if they were offered the possibility of punishing the unpleasant capitalists individually, rather than punishing all capitalists regardless of blame through higher general regulation. A good legal system would contribute to the emergence and success of a political party that would credibly promise to punish deviant or corrupt capitalists and at the same time promise to push for less regulation.[20] It is worth pointing out that U.S. presidents of the trust busting era were not seen as particularly antimarket and in fact included Republican presidents William McKinley, Theodore Roosevelt, and William Howard Taft. McKinley appointed the U.S. Industrial Commission on Trusts, which investigated such well-known business figures as Andrew Carnegie and John D. Rockefeller, and his successors Roosevelt and Taft actually dissolved several trusts.[21] More recently, the case of Korea may also illustrate this mechanism. After the 1961 military coup, Korea's new leader, General Park Chung Hee, decreed

20. Note that businesspeople in general would also benefit from strengthening the legal system because it would eliminate the negative (ideological) externality mentioned in the introduction: without a strong legal system, corrupt capitalists hurt honest capitalists by inviting intrusive regulation for all. The possibility of a corruption trap also exists, whereby beliefs about corrupt capitalists fuel intrusive regulation, prompting more business corruption. See Glaeser and Shleifer (2003) on alternative strategies of law enforcement, with an application to the rise of regulation during the Progressive Era.

21. Eliot Spitzer, when he was New York State attorney general, defended his high-profile cases against "big business" in similar terms: "Does anybody out there really believe that the market is better off with those problems before we revealed them? . . . Just as would anybody want to go back to the world before Teddy Roosevelt, where we broke up the cartels? I think not. And so even though those who pretend to speak for the free market kick vigorously against us when we reveal these problems, . . . the reality is that *the market survives only because we reveal these problems, make them eminently clear, and try to confront them in a very real way*" (Spitzer 2005, at about minute 32; emphasis added). Spitzer was later elected governor of New York with 69 percent of the vote.

the Illicit Wealth Accumulation Act. He then arrested some of the country's more prominent businessmen, including Lee Byung Chull (the head of Samsung), seized their assets, and paraded them through the streets of Seoul carrying placards with legends such as "I am a corrupt swine." Later on, business groups received favorable treatment, and Park was able to implement policies that were not antimarket and were extremely popular (see Oberdorfer 1997).

The unpleasant capitalists hypothesis can also be linked to a literature in anthropology in which mythmaking plays an important role in the construction of society. Couched in these terms, the hypothesis emphasizes that economic organization in developing countries lacks cultural heroes: an American prompted to name a prominent businessperson might think of people who invented great products or built a great company (like Henry Ford or Bill Gates), but a respondent in a developing country is likely to respond with the names of businesspeople who made their wealth in contracts with the state. The perception of Bill Gates as a cultural hero may favor the development of a capitalist system with low taxes, and the lack of such heroes in poor countries could be connected to their rejection of capitalism. In this vein it is also possible to derive a rejection of capitalism from the observation of corruption for efficiency (rather than fairness) considerations. For example, in a simple signal extraction problem involving managerial talent, the observation of corruption reveals to the public that the firm's manager has decided to spend time and effort lobbying politicians rather than working and innovating, reducing the likelihood that the manager is productive.[22]

Given the current economic dislocation in the United States, it is of interest to note that during macroeconomic crises there is often the perception of corruption among large companies (particularly banks). This can be exacerbated when firm owners are perceived to be looting their companies even as they are being bailed out by the government (see, for example, Akerlof and Romer 1993). Our paper suggests that the design of macroeconomic bailouts can have lasting influences on the economic system by affecting the perception of how deserving the bailed-out bank owners and other capitalists are.[23]

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22. For a model with these characteristics, see Di Tella and MacCulloch (2006).

23. The debate over regulation and limits to compensation in the wake of the recent bailouts suggests that this paragraph touches on only a few of several relevant considerations. One complication from a normative perspective is that a weak government may also make a crisis (and the necessity of a bailout) more likely.

V. A Model Linking Corruption and Ideology through Fairness Considerations

We now turn to a simple model intended to formalize the idea that "unpleasant capitalists" weaken public support for capitalism. The setup is a two-period model in which workers (who are also voters) in the second period update their evaluation of the altruism of firms, after observing the level of corruption in the first period. From this evaluation, workers decide on the level of taxes to set in the second period. Given the new level of taxes, firms and bureaucrats again jointly decide how much corruption to engage in (which hurts the workers). The preferences we assume imply that workers do not normally confiscate the wealth of the rich, because they would regard that as unfair (see, for example, Akerlof and Yellen 1990 and Rabin 1993). Specifically, individuals are assumed to have "reciprocal preferences" (see Levine 1998 and Rotemberg 2005).

V.A. Preferences

Assigning the subscripts b, f, and v to variables corresponding to bureaucrats, firms, and workers, respectively, and denoting by U their material payoffs (apart from any altruistic feelings), we can define their preferences as

$$(3) \qquad\qquad W_b = U_b + \lambda_b U_v$$

$$(4) \qquad\qquad W_f = U_f + \lambda_f U_v$$

$$(5) \qquad\qquad W_v = U_v + \lambda_{vf}\left(\hat{\lambda}_f\right)U_f + \lambda_{vb}\left(\hat{\lambda}_b\right)U_b,$$

where λ_s is a parameter denoting the unconditional level of altruism of the firms or the bureaucrats toward the workers. (All firms are assumed to be equally altruistic, but their level of altruism is unknown to the workers.) The workers' level of altruism is $\hat{\lambda}_{vs}$ and is assumed to be an increasing function of $\hat{\lambda}_s$, the workers' best estimate of the firms' (or the bureaucrats') level of altruism.[24] Without loss of generality we assume that there are no altruistic feelings between firms and bureaucrats.

This formulation assumes that workers would want to respond as they themselves have been treated. As stressed by David Levine (1998) and Julio Rotemberg (2005), this function has to adopt some positive values in order to explain voluntary contributions in public goods experiments, and

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24. An alternative interpretation of λ is as a measure of the perceived merits of the capitalists (or the bureaucrats).

some negative values in order to explain rejections of positive offers in ultimatum games. For purposes of this application, it is sufficient to assume that λ is an increasing function of $\hat{\lambda}_s$. For simplicity, let the firms' altruism parameter take one of two values, $\lambda_f \in \{\lambda_1, \lambda_2\}$. The ex ante probability that the value of the altruism parameter λ_f is k_f and is common knowledge. The bureaucrats' level of altruism, $\lambda_b \leq \lambda_1$, is assumed to take just a single value known to the workers. In this special case, $\hat{\lambda}_b = \lambda_b$, although in a more general version of the model, λ_b can also be allowed to take either of two values.

V.B. Government

Each worker is endowed each period with an amount, R, of resources that is put into the custody of a bureaucrat (one can think of this as, for example, a flow value of a public good used in national defense). The firm pays a lump-sum tax t to each worker.[25]
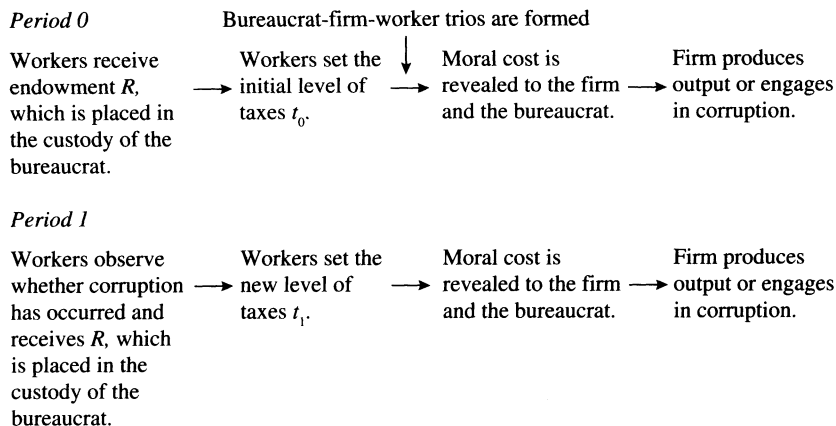
V.C. Technology and Contracts

The numbers of firms, bureaucrats, and workers are assumed to be equal, so that the economy is organized as a collection of trios, each consisting of one firm, one bureaucrat, and one worker. The operations of the firm produce output p.

V.D. Corruption (of the Capture Variety)

When corruption is present, the firm produces no output, and the players receive the payoffs described in equations 3 through 5, which we now denote $W_s^{corrupt}$ (corruption is observed only within a trio). In this case the worker's material payoff is 0, and the firm and bureaucrat each obtain $\frac{R}{2} - m$, where m is a common moral cost that is privately observed (by the bureaucrat and the firm but not by the worker). Its distribution is common knowledge and is denoted by $F(m)$. When corruption is absent, the firm does produce output and the players receive W_s^{honest}. In this case the worker's material payoff is $\alpha_v p$, and the firm and the bureaucrat receive

Figure 1. Timing in the Unpleasant Capitalists Model

Period 0   Bureaucrat-firm-worker trios are formed

Workers receive	Workers set the	Moral cost is	Firm produces
endowment R,	initial level of	revealed to the firm	output or engages
which is placed in	taxes t_0.	and the bureaucrat.	in corruption.
the custody of the			
bureaucrat.			

Period 1

Workers observe	Workers set the	Moral cost is	Firm produces
whether corruption	new level of	revealed to the firm	output or engages
has occurred and	taxes t_1.	and the bureaucrat.	in corruption.
receives R, which			
is placed in the			
custody of the			
bureaucrat.			

Source: Authors' model described in the text.

the shares, $\alpha_f p$ and $\alpha_b p$, respectively. It is reasonable to assume that the bureaucrat's material payoff is smaller than the firm's.

V.E. Timing

At the beginning of the first period, the worker receives her endowment, which is placed in the custody of the bureaucrat, and sets the initial level of taxes t_0 (figure 1). The bureaucrat-firm-worker trios are then formed. Within each trio, two of the players (the firm and the bureaucrat) learn the value of the common moral cost. Firms then either produce output or engage in corruption with the bureaucrat. At the start of the second period, the worker observes whether there has been corruption (given t_0). The worker then estimates $\hat{\lambda}_s$ (without information about the realization of the moral cost) and votes on a new level of taxes t_1. In the second period there is again a corruption decision (the consequence of the new t) because the worker again receives the endowment, which is placed in the custody of the bureaucrat. A moral cost is again revealed to the firm and bureaucrat, determining whether either production or corruption occurs.[26]

26. It has to be assumed that the probability that the worker is the median voter is sufficiently small that firms can ignore signaling.

V.F. Results

For a given level of taxes, one can define a threshold moral cost for each altruism parameter such that a firm with a lower moral cost is corrupt. Thus, a firm for which

$$(6a) \qquad \alpha_f p - t + \lambda_f U_v \left(R + \alpha_v p + t \right) \geq R/2 - m$$

produces, where $U_f(0) = 0$ and is assumed linear for simplicity. Otherwise it is corrupt. Call the level of m for which the equation above holds with equality m_f. A similar logic determines m_b, the moral cost that makes the bureaucrat indifferent between participating in the corrupt transaction and not. That is,

$$(6b) \qquad \alpha_b p + \lambda_b U_v \left(R + \alpha_v p + t \right) = R/2 - m_b.$$

Note that for corruption to occur, both the bureaucrat and the firm need to be willing to deal with each other. Since the honest material payoff to the firm is higher than that to the bureaucrat, the binding moral cost is always the firm's, m_f. The initial level of taxes, $t = t_0$, is set by the workers so as to maximize expected utility, using ex ante probabilities k_1 and k_2:

$$(7) \qquad \max_t \left\{ EW_v = \sum_{f=1}^{2} k_f \left[1 - F(m_f) \right] W_v^{honest} + \sum_{f=1}^{2} k_f F(m_f) W_v^{corrupt} \right\}.$$

After observing the state r, where $r \in \{ corruption, honesty \}$, the worker is able to update her best estimate of the firm's altruism parameter:

$$(8) \qquad \hat{\lambda}_f = \lambda_1 z\left(\lambda_1 \big|_r \right) + \lambda_2 z\left(\lambda_2 \big|_r \right),$$

where $z(.)$ are conditional probabilities. Since the binding moral cost is always the firm's, updating occurs only with respect to the firm's level of altruism:

$$(9) \qquad z\left(\lambda_f \big|_{corruption} \right) = \frac{k_f F(m_f)}{k_1 F(m_1) + k_2 F(m_2)}.$$

The worker's problem after observing the state r is to set the new level of taxes, $t = t_1$, so as to maximize expected utility:

$$(10) \qquad \max_t \left\{ EW_v \big|_r = \sum_{f=1}^{2} z\left(\lambda_f \big|_r \right) \left[1 - F(m_f) \right] W_v^{honest} \right.$$
$$\left. + \sum_{f=1}^{2} z\left(\lambda_f \big|_r \right) F(m_f) W_v^{corrupt} \right\}.$$

The first-order condition is given by

(11)
$$\sum_{f=1}^{2} z\left(\lambda_{f}|_{r}\right)\left[1 - F\left(m_{f}\right)\right]\left[\frac{\partial U_{v}}{\partial t} - \lambda_{vf}\left(\hat{\lambda}_{f}\right)\right]$$

$$-\sum_{f=1}^{2} z\left(\lambda_{f}|_{r}\right)\left(1 - \lambda_{f}\frac{\partial U_{v}}{\partial t}\right)f\left(m_{f}\right)\left(W_{v}^{honest} - W_{v}^{corrupt}\right) = 0.$$

Equation 11 suggests that the worker balances her income from taxes against her desire to be fair to the firm and against the incentive costs of high taxes (captured through an increase in corruption and in the size of the unofficial economy). The following proposition can be established:

Proposition:
1. Observing corruption increases the desired tax when fairness considerations dominate the decision (because corruption lowers the chance that the firm is altruistic toward the worker).
2. When firms are relatively productive, there is less corruption, ceteris paribus.
3. When taxes are high, corruption does not change the worker's estimate of the firm's level of altruism.

Proof:
1. Note that $z(\lambda_{2|corruption}) < k_2$. Then $t_{1|corruption} > t_{1|honesty}$, where $t_{1|r} = $ argmax $EW_{v|r}$, since the first-order condition reduces to $\frac{\partial U_v}{\partial t} - \lambda_{vf}$

   $\left(\hat{\lambda}_f\right) = 0$ when fairness dominates considerations of the size of the shadow economy. If corruption is observed, $\lambda_{vf}(\hat{\lambda}_f)$ decreases, which implies that taxes must rise, assuming $\partial^2 U_v/\partial t^2 < 0$.
2. Define a productive firm as one that has a large p (relative to R). Calculate the probability of corruption as $\sum_{f=1}^{2} k_f F\left(m_f\right)$ and then note that $\partial m_f/\partial p < 0$.
3. The reason is that $m_2 \rightarrow m_1$ as taxes rise.

The intuition behind our key result—that the observation of corruption leads to higher taxes—is as follows. Firms dislike taxes. An act of corruption means that both the firm and the bureaucrat have been, to some degree, unfair toward the worker. But why should the worker react by punishing the firm and not the bureaucrat? First, recall that the worker gets some of the tax receipts. Second, and more important, for a similar level of altruism, the bureaucrat is always more prone than the firm to be corrupt,

because it is assumed that the bureaucrat is being paid less than the firm. Thus, the act of corruption reveals only the firm's level of altruism. This intuition also carries over to the case where bureaucrats can have either of two levels of altruism. It predicts that a person who sees corruption among public officials as widespread will express a dislike of capitalists relative to other groups (such as ethnic or religious minorities). In fact, the correlation between these two questions in the WVS is significant at the 1 percent level and has the predicted sign.[27] An alternative explanation exploits the natural distinction between extortion and capture. By assumption, bureaucrats misbehave more than firms in the case of extortion, whereas the opposite is true under capture. Then, if capture cases tend to involve better-known actors in business and politics than do extortion cases, they will tend to be covered more often in the media and to be more salient in the eyes of the public at elections.

The model emphasizes the notion of commercial legitimacy, whereby the privileges (high income, status, laws protecting their activities, and the like) of businesspeople are accepted by the voters. This idea, which parallels the political science notion of legitimacy of the state, is summarized in the model by the degree of mutual respect (or reciprocal altruism) of the different actors.[28] In particular, the main variable of interest—the level of taxation—is determined by a combination of self-interest, a sense of fairness toward others, and an incentive constraint arising from the difficulty of producing output in a highly taxed economy.[29] This is related (but not identical) to a class of efficiency problems generated by high taxes that prevent the poor from fully taxing the rich. More precisely, in this model the main cost of taxes from the point of view of the voters is that firms hide more of their income (by joining the unofficial economy). Formally, the

27. This important aspect of the model where income differences between bureaucrats and capitalists drive the changes in beliefs against the richer actor can be taken as a metaphor for the differences in power between the two, whereas in the case of extortion the more powerful party is the bureaucrat.

28. This formalizes the idea that "corporations have an obligation to refrain from illegal payoffs as part of the quid pro quo implied by the laws that permit corporations to exist and to operate" (Rose-Ackerman 2002, p. 1889).

29. As in work on why the poor do not expropriate the wealth of the rich (for example, Piketty 1995; Putterman 1996; Roemer 1998; Benabou 2000; Benabou and Ok 2001; and Alesina and Angeletos 2005). Note that even if efficiency considerations were absent, a sufficiently strong desire for fair outcomes would bring about an interior solution. This is desirable given that the correlation between income inequality and taxation across rich countries is weak. We are ultimately more interested in the correlates of the equilibrium level of taxes than in what this level is.

costs of this outcome are similar to the standard efficiency costs of high taxes.[30] One advantage of the present setup is that voters update less when taxes are high, which could capture the idea that corruption is perceived as more "justifiable" when taxes are high.

A difficulty for fairness models is that outcomes are judged according to how close they are to a target or "fair" outcome, but there is no natural way to define that outcome. We follow Levine (1998) and Rotemberg (2005, 2008) in assuming that an agent's feelings toward others are affected by what they believe others feel toward them. Thus, more value is placed on money in the hands of an individual who is thought to be more altruistic.

There may be an ideological externality in the sense that the individually rational acts of corrupt firms lead to the belief that all capitalists are undeserving and harmful to the rest of society. A natural extension is to allow different kinds of firms (good and bad) to exist in the economy simultaneously. It then becomes important to specify the extent to which altruism is correlated across firms. In small or stable societies, firms might be perceived to be part of a homogeneous group (as in the present model), and this leads to more updating against all firms (a stronger ideological externality). This provides some justification for the preoccupation of some firms with getting others to adopt forms of corporate social responsibility. Finally, in a repeated-game extension of the model, if a political party offering low taxes credibly promises to control corruption in the future, its appeal may still be less than that enjoyed by the party offering high taxes. The reason is that after observing corruption in the past, reciprocal preferences imply that voters will seek to punish firms by imposing higher taxes. And since corruption will be controlled in the future, there will be no incentive costs of higher taxes in terms of driving firms into the shadow economy, reinforcing the first effect.

The regression equations in section III are designed to test the prediction in part 1 of our formal proposition. The desired level of taxes is proxied by the left-right placement of either the government (in section III.A) or the individual (in section III.B). The "anger" regressions in section III.C test for the transmission mechanism suggested by the term interacting the worker's level of altruism toward firms (which depends on the observed

30. See Johnson and others (2000) and Svensson (2003). Extending the setup to include firm investment shows that corruption can be more damaging than taxes (as long as moral costs are discovered after investments are made), consistent with the arguments in Shleifer and Vishny (1993) and Wei (1997). An emphasis on tax evasion as a response to tax increases (for example, instead of labor supply responses) is consistent with the empirical evidence in Auerbach and Slemrod (1997).

level of corruption) and the firm's payoff (which depends on the level of taxes or regulation) in the workers' utility function.

VI. Conclusion

U.S.-style, pro-capitalist political ideas face electoral difficulties in poor countries. The first part of this paper showed, using data on business entry regulation, on the ideological orientation of political parties, and on people's beliefs about the benefits of private versus government ownership of business, that intrusive regulation and left-wing rhetoric and beliefs are more common in poor countries than in rich ones.

The second part of the paper suggested an explanation for these phenomena based on the idea that corruption plays a role in shaping ideologies. We then presented a model in which corruption generates the perception that capitalists are "undeserving" (for example, of their wealth and of the freedom to run their businesses without supervision). When the legal system is slow to punish them, the demand for more regulation, higher taxes, and government intervention to make the environment less business-friendly increases, even if this has material costs. Thus, corruption, even when limited to a small group of businesspersons, might interfere with the spread of capitalism. In some circumstances, however, the government can preserve capitalism by punishing only those capitalists whom the voters perceive as corrupt—as Teddy Roosevelt did almost a century ago.

We have presented suggestive evidence consistent with this "unpleasant capitalists" hypothesis. First, we showed that increases in aggregate (country-level) corruption tend to precede electoral gains by left-wing parties in national elections. Second, we showed that in a given country at a given time, people who perceive corruption to be widespread also tend to place themselves toward the left of the ideological spectrum and to demand more government ownership of business and industry. We also found cross-country data on reported emotions, from the Gallup World Poll, to be consistent with the mechanisms involved in our explanation: anger is associated with perceptions of widespread business corruption, but the presence of regulation that makes life harder for business weakens this correlation. We interpret our findings to mean that voters get angry when they see businesspeople engaging in corrupt behavior, and that they are then more likely to elect left-wing governments that will more stringently regulate business, thus reducing their anger. More broadly, the paper shows that corruption has an ideological side to it, eroding the legitimacy of business and hampering the electoral performance of pro-capitalist parties.

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