POSTCOMMUNIST REGULATORY REGIMES AND BUSINESS ORGANIZATION

Dinissa Duvanova
Department of Political Science
University at Buffalo
SUNY
duvianova@buffalo.edu

ABSTRACT

The interest group theories that link regulations and activities of special interest groups predict higher levels of collective action to coincide with more extensive regulations. The fact that economic regulations and enforcement mechanisms may impose the costs on interest organization and thus diminish instances of collective action, however, has not been explored systematically. The evidence form twenty-six postcommunist countries over the time period spanning from the late 1990s to the mid-2000s indicates that state regulatory institutions have a surprising effect on the formation of business associations. Contrariwise, harsh regulations discourage the development of business associations, but lax enforcement of regulations, often linked to bureaucratic corruption, stimulates collective action. Contrary to the long-standing tradition of viewing industry associations as rent-seeking vehicles of protectionism and collusion, this suggests that the business community organization is largely driven by the need for non-state market-promoting institutions rather than primarily by rent-seeking.
Special-interest groups occupy a central place in the field of political economy (Olson 1965; Stigler 1971; Groseclose and Snyder 1996; Grossman and Helpman 2001). Traditionally, interest groups literature has depicted organized interests as rent-seeking vehicles of protectionism and unproductive collusion detrimental to social well-being (Peltzman 1976; Olson 1982; Grossman and Helpman 1994; Rose-Ackerman 1999). The interest group theories that link regulations and activities of special interest groups (producers), predict higher levels of producers’ collective action to coincide with more extensive regulatory activity by the government (Stigler 1971; Peltzman 1976; Peltzman 1998; Keeler 1984; Weingast 1981; Noll and Owen 1983; Grossman and Helpman 2001). The fact that economic regulations and enforcement mechanisms may impose the costs on interest organization and thus diminish instances of collective action, however, has been undertheorized. The evidence from twenty-six postcommunist countries over the time period spanning from the late 1990s to the mid-2000s indicates that state regulatory institutions have a surprising effect on the formation of business associations. Contrarily to the intuition, harsh regulations discourage the development of business associations, but lax enforcement of regulations, often linked to bureaucratic corruption, stimulates collective action. This suggests that rent-seeking has not been the driving force behind the formation of postcommunist industry associations.

Although the postcommunist transition has provided fertile ground for studies of business–state interactions, few studies have focused on formal associations for business representation. Researchers have investigated reform of the state (McFaul 1995; Bunce 1999; Grzymala-Busse 2008; Pickles and Jenkins 2008; Frye Forthcoming) and informal interactions between the state and private interests (Hellman 1998; Hellman, Jones, and Kaufmann 2000; Ganev 2001; Frye 2002), but we know little about formal representation of nonstate economic
actors. A comprehensive analysis of the transitional processes that redefine the state’s role in the economy must include the formation of formal associations representing the business community. Such organizations, which had at most had a very limited role in the state-controlled socialist economy, mushroomed throughout East-Central Europe and Eurasia following the collapse of central planning and democratic transitions. Both the public and academia, nevertheless, tend to view postcommunist business associations as having little influence over state policy and economic development (Kubicek 1996; Peregudov and Semenenko 1996; Fortescue 1997; Rutland 2001; McMenamin 2002). If associations are unimportant in lobbying for the business community’s interests, it is unclear why firms across the postcommunist world join them and why these associations grow in number and membership. This paper investigates institutional causes of formal interest organization in the region.

The logic of the argument advanced in this paper is straightforward, but yields a counterintuitive insight. Corrupt bureaucrats often compete with business associations to provide regulatory relief. (In exchange for bribes, the bureaucrats overlook noncompliance with regulations.) To gain members, business associations must supply meaningful, cost-effective regulatory relief. When regulations are particularly burdensome, business associations must work harder to make membership worthwhile; therefore, fewer of them are able to form and survive. However, when enforcement of harsh regulations is lax and corruption prevails, business

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1 In the postcommunist countries business or employer associations are defined by specialized national legislation as the nonprofit, noncommercial organizations uniting firms or firm managers on professional, geographical, sectoral, or other principles. This definition legally restricts activities of business associations and provides a clear distinction between them and industrial conglomerates, trusts, and vertically and horizontally integrated commercial establishments (corporations).

2 Remington (2004) describes the Russian Union of Industrialists and Entrepreneurs as “the single most powerful organized interest group in Russia” (p. 153). Similarly, according to Fink-Hafner and Krasovec (2005), “Interest groups with more independent resources and greater power (especially economic interest groups) have succeeded in their pressure to create more institutionalized policy networks with an important influence on behalf of non-state actors” (p. 414). However, such assessments are infrequent. Most scholars emphasize the weakness of postcommunist businesses associations.
associations can provide a valuable service to members by protecting them from corruption and can thrive as organizations. This argument suggests the positive institution-building and market-promoting functions of industry associations that in their quest for membership have to provide member-specific selective incentives. These implications contradict customary assessments of industry associations.

As early as 1776, Adam Smith expressed a distrust of organized economic interests: “People of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against the public” (p. 131). Smith’s two propositions, well known in the modern scholarship as the collective-action problem and special interests’ rent seeking are fundamental to the way we think about business interests. According to the former concept, it is irrational for self-interested actors to join a common-cause group; self-reliance and opportunism are their optimal strategies. According to the latter, organized moneyed interests should always be suspect in taking advantage of disorganized consumers and short-sighted politicians.

The rapid growth of postcommunist business associations poses a dramatic contradiction to the prediction highlighting difficulty of collective action. Prior to 1989, the postcommunist countries of Eastern Europe and the former USSR lacked membership-based business associations. After the collapse of communism business associations surpassed other types of societal organizations in their number, resources, and membership. The variation in membership rates across countries, however, is striking, ranging from fifteen to seventy percent of business entities (World Bank 1999-2005). This paper examines the solutions to the collective action problem faced by postcommunist businesses and contributes to the literature on collective action

3 Appendix A describes and summarizes empirical data on postcommunist business participation in industry associations.
by linking the provision of selective incentives to the constraints and opportunities created by regulatory environment.

This paper also makes contribution to the literature on socio-economic effects of special interests. The recent studies of industrial relations in emerging markets challenge the rent seeking perspective with mounting evidence of market-friendly, efficiency-enhancing activities of industry associations (Recanatini and Ryterman 2001; Campos and Giovannoni 2005; Pyle 2006; Markus 2007; Nugent and Sukiassyan 2008). Arguments advanced here contribute to this emerging intellectual tradition, highlighting formal business associations as nonmarket vehicles that improve business climate, efficiency, and growth. Specifically, this paper addresses the influence of the state regulatory environment on a company’s decision to pursue one of two alternative strategies: opaque, direct transactions with regulators (i.e., bribery) or public collective action (participation in business associations). The empirical evidence supports the view that collective action by the business community is a response to malignant regulatory practices in emerging markets. This suggests that the business community organization is largely driven by the need for non-state market-promoting institutions rather than primarily by rent-seeking.

The next section identifies the most compelling explanations for the formation of business associations and proposes the hypothesis of defensive organization. To illustrate the logic of defensive organization, the paper presents a simple three-player game that models the choice of participation in business associations as a strategic interaction between the state, business associations, and firms. In what follows, I test empirical propositions derived from the theory of defensive organization, focusing on the effects of regulatory environment and bureaucratic probity on firms’ decisions to join business associations. Statistical analysis that
controls for the effects of other correlates supports the defensive organization hypothesis. In conclusion I summarize the results and discuss their implications.

**Regulatory Environment and Industry’s Collective Action**

Three major theories of interest-group politics explain the formation of business associations. According to modernization theory (Truman 1951; Peltzman 1976; Olson 1982; Becker 1983; Mueller and Murrell 1986), business associations form in response to changes in the socioeconomic environment. The social choice tradition addresses group formation as a solution to the collective action problem (Olson 1965; Taylor 1990; Kennelly and Murrell 1991). Within this framework, characteristics of latent groups are the primary factors. According to the third theory, the industrial structure and the nature of production and exchange influence the organization of economic interest (Bates 1981; Frieden 1991; Hiscox 2001). These theories of interest group politics point to political and socioeconomic factors affecting the formation of organized interests. In addition to institutions shaping the political environment, state bureaucratic structures shape the regulatory environment in which firms operate. During profound socioeconomic transformation, the state deeply affects postcommunist firms. The state regulatory regimes and the quality of state governance influence firms’ economic viability, business strategies, costs, and opportunities.

In the new postcommunist capitalist economies the regulatory power of the state remains quite heavy. Clearly, it would be misleading to expect that regulation completely withers away with the transition to a market economy. In fact, virtually all capitalist economies are regulated in one form or another by nonmarket forces. In the postcommunist world, though, the subject, mechanisms, and objectives of state regulation often were blindly transferred from the socialist past with little recognition of the new capitalist realities. In many countries, the state regulatory
machine has bestowed enormous power on its officials, who use it to their personal advantage. Those officials who have the most power vis-à-vis economic actors subjected to regulatory restrictions often resort to corruption, graft, and outright expropriation of enterprises’ resources.

The interest group theories (Stigler 1971; Peltzman 1976; Peltzman 1998; Keeler 1984; Weingast 1981; Noll and Owen 1983; Grossman and Helpman 2001) establish theoretical links between regulatory environment and producers’ collective action. Organized interests are often seen as either the response or the cause of heavy state regulatory involvement. On the other hand, the literature that focuses on the enforcement side of the regulation, links industry collective action to corrupt state bureaucracy. Assertions that corruption discourages collective action have focused on either the opportunities that corruption offers businesses (e.g. reduction of red tape and avoidance of bureaucratic restrictions on business) (Leff 1964; Huntington 1968) or corrupt bureaucrats’ victimization of businesses (McChesney 1997). The first type of assertion underemphasizes corruption’s cost to businesses; the second type overemphasizes bureaucratic extortion, depicting businesses as passive victims of predatory state behavior.

To appreciate the importance of regulatory enforcement, consider the following threats and opportunities corrupt regulatory enforcement poses to businesses. As regulations and bureaucratic inefficiency increase, so does the pressure on individual businesses to bribe bureaucrats (Huntington 1968). As corruption spreads and the amount of bribes increases, costs to businesses mount. At the same time, even in a predatory environment in which bureaucrats manipulate regulatory procedures to extort from firms, corrupt engagement provides some benefits for businesses. By paying bribes, firms avoid costlier regulatory compliance and gain an advantage over competitors who do not pay bribes. Clearly, the content and cost of regulations cannot be considered in isolation from regulatory enforcement provided by state bureaucracy. In
what follows I advance the argument considering the effects of both elements of regulatory regimes—regulatory costs and regulatory enforcement mechanisms—on business collective action.

My argument relies on two assumptions. First, businesses incur costs associated with regulatory compliance. Second, bureaucrats may overlook noncompliance in exchange for bribes. Regulations relevant to businesses may apply to business in general (e.g., accounting standards and labor laws) or to particular industries (e.g., licensing requirements, environmental regulations, safety regulations). Compliance with regulations requires staff with special knowledge (e.g., accountants and attorneys). Also, managers must learn about the regulations and supervise their implementation, thus the cost of managerial time should be considered. In theory, well-enforced regulations protect property rights of producers and consumers, make information sharing more cost-effective, make the business climate more predictable, and promote enforcement of contracts. Although such regulations benefit society and the overall economy, they come at a cost to firms. Since regulatory compliance entails costs that are not directly linked to an immediate and noticeable increase in benefits to a firm, firms are interested in minimizing the cost of compliance.

The quality of institutions that enforce regulations affects the ways in which firms seek to minimize the costs of compliance. When dealing with grossly ineffective state bureaucracies and inconsistent enforcement, businesses are more likely to favor noncompliance. When state bureaucracies are effective and honest, businesses are more likely to engage in organizational

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4 The benefits of regulatory regimes, assuming the latter are well-intentioned and not rigged in favor of particularistic interests, are classic public goods. Although beneficial to the group, their cost to individual businesses gives an incentive to free-ride.
and technological innovations that reduce the costs of compliance. In most postcommunist
countries, however, bureaucracies are capable of enforcing regulations but are not motivated to
do so consistently and impartially. Under these conditions, businesses are likely to avoid overt
noncompliance but make corrupt deals with the bureaucrats entrusted with enforcing the
regulations. In return for bribes or favors, corrupt bureaucrats will expedite the processing of
legitimate requests or ignore noncompliance.

Corrupt bureaucrats accept bribes as long as the benefits of supplementing their income
outweigh the risks of job loss or prosecution. Businesses are willing to pay bribes as long as
doing so costs them less than regulatory compliance. The resulting bribe will reflect the cost of
regulatory compliance and the cost of corrupt behavior. Thus, the cost of corruption might
increase or diminish as a result of better deterrence (anticorruption measures) or as the extent of
regulatory intervention (and thus, the cost of regulatory compliance) changes.

Confronted with an invasive regulatory environment and costly corruption, businesses
generally benefit from finding legitimate ways to reduce regulatory costs. In such a situation,
however, the long-term benefits of engaging in corrupt behavior are diminishing, because
corruption increases businesses’ vulnerability, heightens dependence on bureaucrats, and limits
the availability of legal enforcement (so the bureaucrats can cheat with impunity). The reduction
or regulatory costs has direct benefits (compliance costs diminish) and indirect benefits (the costs
of bribes also go down). Business associations—organized groups of business owners or firms—
are well-equipped to act as agents, reducing the cost of regulatory compliance for their members.
They may provide information on effective ways to deal with state regulatory systems.

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5 Businesses might also try to influence local and national authorities who determine regulatory practices and
supervise bureaucrats; however, this approach is less rewarding when bureaucratic autonomy is high.
6 This lack of motivation results from inadequate pay, inadequate political supervision, and the perverse incentive
structure of poorly designed bureaucratic institutions.
seeking legal protection, enable self-regulation that preempts bureaucratic intervention, and increase members’ ability to inform politicians of bureaucratic inefficiency and abuse. By organizing into associations, firms can protect themselves from state regulatory intervention and avoid bureaucratic predation. Associations can better navigate the complicated rules and regulations structuring economic environment. They also may play a role in creating more beneficial regulatory systems. When state regulations are complicated and corrupt bureaucrats hold a monopoly over their implementation, self-regulating business associations capable of substituting for state regulatory regimes might become attractive regulatory alternatives.

This argument suggests that by seeking regulatory relief for their members business associations compete with bureaucrats who might offer impunity to noncompliant firms through corrupt transactions. The protection from a costly regulatory environment, however, can be better achieved as a club rather than as a purely collective good. Because collective goods are subject to free-riding, their provision cannot be taken for granted. If, on the other hand, business associations can find ways to reduce the costs of regulatory compliance as member-specific selective incentives, they can escape the collective action predicament. As with other club goods, such selective protection and self-regulation are excludable but nonrival, and their net benefits are an increasing function of associational membership. The following section formalizes this argument.
A Formal Model

This section devises a formal model of businesses’ decision to participate in business associations as a strategic interaction between businesses, state bureaucrats, and associations. It specifies conditions under which the formation of business associations is the optimal strategy for businesses.

Assumptions

As previously mentioned, I start with two plausible assumptions: (1) businesses seek to reduce the costs associated with regulatory compliance, and (2) in exchange for bribes, bureaucrats will overlook noncompliance. In the model, the costs associated with regulatory compliance are factored into the business’s profit-maximization function. The total cost of running a business can be divided into (a) the market cost of production and (b) the costs of regulatory compliance (including taxes, registration fees, licensing fees, inspection fees, and related managerial time). Firms maximize their profits by increasing revenues and reducing costs. If a firm cannot significantly reduce market-related costs and achieve sufficient revenue through market strategies and technological innovations—a special case of a firm in competitive market settings—reduction of regulatory costs becomes the more feasible way to increase profits. As Huntington (1968) notes, corruption offers one way to reduce regulatory costs. “Speed fees” reduce processing and managerial time spent dealing with the state bureaucracy. “Blinders fees” that cause the recipient to ignore noncompliance, allow businesses to skirt costly environmental and labor regulations, use unapproved equipment and production processes, and hide taxable transactions. As long as bribing is cheaper than compliance, a profit-maximizing firm will choose bribing. In other words, it will pay bribes up to the amount equal to the cost of regulatory compliance, subject to the total profit constraint.
**Actors and Strategies**

The model has three players: a firm \((F)\), a bureaucrat \((B)\), and an organization \((O)\). All are assumed to be rational utility maximizers. The firm maximizes income (profit) or the difference between revenues and costs: \(I_F = r - c\) where \(I_F\) is income, \(r\) is total revenue, and \(c\) is total cost. Businesses operate under the total budget constraint set by \(0 \leq I_F = r - c\). The cost \((c)\) is disaggregated into production cost \((c_p)\) and regulatory cost \((c_r)\). The bureaucrat maximizes his/her personal income rather than pursues public interest. The bureaucrat’s income is derived from his/her salary and any bribe \((b)\) he/she might receive as a “side payment” from the firm. Provision of such “additional” bureaucratic services does not entail any direct monetary costs.

The organization’s income is a function of the membership and consists of the difference between dues \((D = \sum_{i=1}^{n} d_i)\) charged and a schedule of particularistic goods \(G_i(g_1, g_2, ..., g_n)\) provided to its members. The firm receives the particularistic good \((g)\), or selective incentive, in the form of legal and professional help in complying with rules and regulations. The particularistic good is nonrival but perfectly excludable, and there is an economy of scale in providing \(g\).

Although under this specification the organization is maximizing its profit, this formulation is also compatible with the members’ surplus maximization objective. Note that the model does not specify how the organizational profits are used. One might think of organizational profits as a common pool of resources that can be directed to meeting members’ demands, or be returned to the members in a form of collective or perfectly divisible goods.

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7 For a member firm \(i\), the selective benefit \(g_i\) is a function of the overall club good \((G)\) provided by an association, \(g_i = f(G)\) such that \(g_i > \frac{G}{n}\), where \(n\) is membership.

8 Gehlbach (2008) models organized-sector lobbies as maximizers of their members’ joint welfare. However, in his analysis the state, rather than business associations, provides the collective benefits to the organized industry. According to Gehlbach, organized lobbies channel member contributions to politicians. In contrast, in my model of organizational dynamics, business associations use membership dues to create excludable benefits.
(increasing members’ surplus). Setting the organizational objective function to maximizing member surplus under minimum budget constraint, moreover, does not change model predictions.

The firm chooses among three options for satisfying regulatory requirements: comply with existing regulations at a cost of $c_r$, bribe the bureaucrat, or join the organization and receive assistance in complying with existing regulations.\(^9\) The bureaucrat chooses to be honest or corrupt; a corrupt bureaucrat must decide on the amount of a bribe, $b$, to charge the firm in exchange for overlooking regulatory violations. The organization decides on the level of dues ($d$) and on the amount of a particularistic good ($g$) that will be provided to the firm, subject to $F$ paying $d$. If the firm and the bureaucrat engage in corrupt behavior, both risk being prosecuted with probability ($p$) and paying a fine, ($f$). Under three strategies available to the firm, it maximizes income, ($I_F$), as defined below.

$$I_F(\text{comply}) = r - c_p - c_r$$
$$I_F(\text{bribe}) = r - c_p - b - pf$$
$$I_F(\text{join}) = r - c_p - c_r - d + g$$

The bureaucrat maximizes income, ($I_B$), where $s$ is salary.

$$I_B(\text{honest}) = s$$
$$I_B(\text{corrupt}) = s + b - pf$$

All variables are assumed to be nonnegative, and $p$ ranges from 0 to 1. I further assume that the organization’s payoff is an increasing function of membership and is greater when $F$ joins than

\(^9\) Actually, a fourth strategy exists. If the cost of regulatory compliance exceeds a firm’s revenue minus the cost of production and other strategies are unavailable, the firm might choose to operate illegally. If so, the firm risks prosecution; therefore, private protection mechanisms, including mafia-type organizations, must ensure that it can continue to operate. The firm’s activities per se might be legal; that is, its products and services might be legal. However, the firm fails to fully comply with state requirements, such as paying taxes, obtaining required permits and licenses, and submitting its practices and products to state control. This fourth strategy is beyond the scope of my investigation.
when $F$ does not join. In offering the dues/benefits schedule, the organization, therefore, maximizes $(D - G)$ or, equivalently, minimizes $(g - d)$, subject to $F$ joining.

The bureaucrat and the organization make simultaneous proposals to the firm. The bureaucrat proposes a bribe, $(b)$, and the organization proposes dues, $(d)$, and a selective good, $(g)$. The firm then chooses comply, bribe, or join. The outcomes will be perfect Nash equilibrium. The firm chooses join over comply if and only if $I_F(\text{join}) > I_F(\text{comply})$ or, equivalently, $g > d$. Similarly, the firm chooses join over bribe if and only if $I_F(\text{join}) > I_F(\text{bribe})$ or if $c_r + d - g < b + pf$. Hence, in order to entice the firm into the organization, the organization must offer a combination of $(g - d)$ such that

\[(1) \quad g - d > c_r - b - pf.\]

The bureaucrat is corrupt whenever $I_B(\text{corrupt}) > I_B(\text{honest})$, or

\[(2) \quad b > pf.\]

To entice the firm into corrupt behavior, the bureaucrat must offer a bribe such that $I_F(\text{bribe}) > I_F(\text{join})$, or

\[(3) \quad b < c_r + d - g - pf.\]

Notice from (3) that if the organization proposes $(g - d) = c_r - pf$, then the necessary and sufficient condition for the firm to bribe rather than join is $b < 0$. The bureaucrat, however, will be honest rather than offer a negative bribe, and so for $(g - d) = c_r - pf$, the firm joins rather than bribes, and the bureaucrat chooses to be honest. For $c_r > pf$ and $g > d$, the firm joins rather

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10 The bribe should simultaneously satisfy $I_F(\text{bribe}) > I_F(\text{comply})$, so that $b < c_r + pf$.
than complies.\textsuperscript{11} For the organization to deter the bureaucrat from corruption, it would be sufficient, however, to drive $b$ below the bureaucrat’s reservation value for bribery. The organization’s minimum offer that will entice the firm into membership is therefore 

$$(g - d) = c_r - 2pf$$, for $c_r > 2pf$. In summary, the following conditions describe the equilibrium outcomes:

If $c_r < 2pf$ and condition (2) is met, the bureaucrat remains honest, and the firm complies for any $g - d < 0$ and joins an organization when $g > d$.

For $c_r > 2pf$, the firm joins if $(g - d) \geq c_r - 2pf$ and bribes if $(g - d) < c_r - 2pf$. The equilibrium outcomes, therefore, depend on the relative costs of regulatory compliance and bribery. Figure 1 summarizes the strategic space of the game. It can be seen from this graph that when the cost of compliance ($c_r$) increases, the probability of a firm ending up in the “Join” strategy space decreases. This happens for two reasons. As $c_r$ increases, 1) the probability of $c_r < 2pf$ diminishes, making it more likely that the firm will end up in the first or third quadrants, and 2) $c_r - 2pf$ increases, expanding the bribe space in quadrant II. Similarly, it is easy to see on this graph that for $g - d > 0$ as the anticorruption measures ($pf$) increase, the triangle ($c_r - pf$; $c_r - 2pf$; $pf$) shrinks, increasing the organizational strategy space. On the other hand, when $g - d < 0$, higher $pf$ increases probability of compliance.

[Figure 1]

In addition, assuming that organizations are more likely to form, the smaller $(g - d)$ is, that is, the lower the initial costs of forming the organizations are, organizational strategy should

\textsuperscript{11} If the organization’s objective function is to maximize member’s surplus, the model solution is straightforward: the organization provides at least $(g - d) = c_r - pf$, no bribery occurs, and the firm joins. In a sense, this becomes a predetermined game in which the organization’s only constraint is the physical ability to provide an “added value” for its members.
prevail at higher levels of bribery. Remember that $F$ joins rather than bribes when condition (1) is satisfied. Since both sides of inequality (1) are positive, when $b$ increases, the corresponding difference $(g - d)$ decreases. This means that, other things held constant, when bribery $(b)$ is high, the organization can entice firms to participate by offering either lower particularistic goods $(g)$ or higher dues $(d)$. This argument represents vertical movement of $b$ in $c - 2pf$ (Figure 1) and reflects the size of rents the organization can derive from the difference in prices for its member services and the substitute (corruption). When bribery and organizational membership are substitutes, setting $g$ and $d$ such that the net benefit of organizational membership falls within $(c - 2pf ; c - pf)$ interval, organization will be more likely to provide a cost-effective alternative to the firms that face a higher bribe schedule. 12

**Implications**

According to the model, a business association has an incentive to maximize the difference between total member contributions and the level of member benefits that guarantees participation. Therefore, establishing a business association is easier when the association can either charge firms higher dues or provide fewer benefits. However, firms will be reluctant to join such an association if alternative strategies (compliance or corruption) offer greater net benefits. When corruption is costly and the likelihood of prosecution is high associations can persuade firms to join even when they offer lower particularistic goods or require higher dues. However, business associations have to offer benefits that exceed in value the cost of compliance. Thus, costly regulations should make it harder for business associations to provide particularistic regulatory relief.

12 Likewise, if an organization maximizes members’ aggregate welfare, firms’ net benefits of membership (and thus, the probability that firms will become and remain members) increases as $b$ increases.
In sum, the model predicts that business associations will form more easily and attract members in systems marked by effective anticorruption measures coinciding with more liberal regulations. Higher bribery and lower regulatory costs, ceteris paribus, should also ease the task of organization. The first implication supports the conventional wisdom. It is not surprising that firms are less likely to engage in corruption if it entails greater costs and risks. Note, however, that effective law enforcement may also lead to the increased regulatory compliance. Therefore, in the context of the defensive organization argument, this prediction does not hold under pervasive regulatory regimes that deter organization.

The other two implications are somewhat more counterintuitive. It is surprising that lower regulatory costs encourage the formation of business associations; one might suppose that higher regulatory costs would prompt associations to form in order to reduce regulatory pressures. According to the logic of defensive organization however, when regulatory costs are high, business associations must work harder to provide cost-effective regulatory relief that attracts members. Stringent regulatory regimes, therefore, make it harder to form an association.

Two forces are at play here. While costly regulations may provide greater impetus for the firms to join, they simultaneously make it harder for business associations to provide regulatory relief. When regulatory pressures are high, existing associations should provide members greater benefits. This condition makes it harder to form business associations.

Finally, according to prevailing opinion, there should be a negative relationship between corruption and legitimate collective action in business associations. However, business associations provide an alternative to corrupt bureaucracy. Firms seeking to maximize profit will be willing to pay business associations as much as they otherwise would pay in bribes to avoid
regulatory compliance.\textsuperscript{13} Thus, as the costs of bribery increase, business associations should find it easier to attract members. This prediction contradicts the conventional arguments about the negative relation between corruption and legitimate collective action, but it is consistent with the notion that business associations provide member-specific regulatory protection.

\textit{Testable Hypotheses}

One can generate testable hypotheses about the effects of interactions between firms, business associations, and bureaucrats. First, the formation of business associations should be inversely related to the cost of complying with regulations. As the cost of regulatory compliance increases, associations should lower their dues and/or provide more benefits to attract members. Otherwise, associational membership would not provide adequate regulatory relief. Under extensive regulation, firms find it more advantageous to engage in corruption; therefore, business associations must work harder to make participation worthwhile. An invasive regulatory system inflates an association’s startup costs and makes it harder to provide regulatory relief. We, therefore, arrive at the following hypothesis:

\textit{Hypothesis 1:} The greater the costs of complying with regulation, the lower firms’ propensity to join business associations.

Second, the model predicts that an association will more easily attract members if corruption ($b$) is pervasive:

\textit{Hypothesis 2:} The more corrupt a firm’s immediate environment, the greater the likelihood that the firm will join a business association.

\textsuperscript{13}In the absence of an associational alternative, the bribes charged by bureaucrats will be $b < c + pf$. Thus, there is a relationship between the cost of regulatory compliance and bribes. However, the relationship changes once the associational strategy is available.
Third, except for systems marked by costly regulations, the model predicts that firms are more likely to join business associations when bribery entails higher costs \( f \) and a higher probability \( p \) of prosecution:

**Hypothesis 3**: When regulatory compliance costs are not exceptionally high, effective anticorruption measures increase the likelihood that firms will participate in business associations.

**Empirical Test**

This section evaluates the hypothesized effects of regulatory pressure, corruption, and anticorruption measures, as well as industry and country characteristics related to the nature of regulation with a cross-national quantitative analysis that includes twenty-six postcommunist countries and spans from the late 1990s to the mid-2000s. In doing so it relies on the best available cross-national data to investigate the effects of regulatory bureaucratic environments on the development of business associations. A hierarchical model brings together microlevel and macrolevel factors often cited as promoting successful collective action and evaluates them against the key variables capturing the effects of a regulatory and bureaucratic environment. Next, this section address one of the most pervasive, but frequently ignored, problems of the social sciences—the problem of endogeneity that arises from the fact that treatment (the independent variable) cannot be randomly assigned to the subject population. That is, the firms that decide to join business associations may differ systematically from other firms in ways that also make them likely to experience different levels of corruption, thereby biasing the statistical analysis.
A Hierarchical Model

Quantitative data on business participation in associations are scarce and often unreliable. Official statistics usually capture only the number of incorporated groups, while the membership figures are customarily obtained first-hand from associations. These, however, are often unreliable because of the conflict of interest faced by associations which tend to exaggerate their membership. Luckily, the World Bank (WB) and the European Bank for Reconstruction and Development (EBRD) conducted three rounds of a cross-national business survey that provided reliable cross-sectional microlevel measurement. To capture business participation in associations, I use the Business Environment and Enterprise Performance Survey (BEEPS) data. A number of questions in the survey address the issues of organizational membership; regulatory environment and corruption are specifically targeted by a wide array of questions. The question about membership in business organizations reveals that 38.2% of firms participating in the survey belonged to at least one association. Membership figures increased from 26.5% in 1999 to 42.8% in 2002, followed by a slight drop to 40% in 2005, which is within the margin of error.\textsuperscript{14} The survey also reveals a vast divergence among levels of organizational membership in different countries. Data on membership levels across countries can be found in Appendix A.

Although the BEEPS survey offers a diachronic perspective on the postcommunist business environment of the late 1990s-early 2000s, it does not trace the experiences of specific firms over this time period.\textsuperscript{15} Testing hypotheses about the effects of the bureaucratic environment on participation in business associations with such snapshot data is not a straightforward exercise. The defensive organization argument suggests that successful industry

\textsuperscript{14} The means are computed using country-level probability weights.
\textsuperscript{15} Although repeated at three-year intervals, the subsequent rounds of the survey do not form a true panel, making it impossible to trace firms’ membership status over time. Still, one can compare the responses to the similarly worded questions across the three installments.
associations provide particularistic benefits of regulatory relief. As such, they alter the business environment: once a firm joins the business association, a range of member services available through membership makes it easier to run business. As a result, the individual experience of firm managers and owners, which at some point in time drives them to join the association, later on is influenced by particularistic benefits provided by the association. In methodological terms, we are dealing with a feedback effect or the case of endogeneity.16

A glance at the correlates of associational membership (Table 1) illustrates the point. The table reports bivariate and partial correlations between associational membership and managerial responses to the survey questions addressing (A) regulatory environment and (B) bureaucratic corruption. The first conclusion to be drawn from the table is that the relationship between individual-level measures of corruption, regulatory burden, and organizational membership is not constant across different survey instruments. Some are consistent, while others are contradictory to Hypotheses 1 and 2.

As suggested by Table 1, there is an empirical link between regulatory burden and associational membership, as measured by the various instruments. The members of business associations, on average, experience a more favorable rather than more obstructive regulatory environment. They are less likely to report taxation as being a burden to their business and find it easier to obtain information about regulatory requirements. At the same time, associational membership is correlated with more managerial time spent dealing with rules and regulations and greater overall levels of regulatory pressure. Table 1 also shows that members of business

---

16 On the more granular conceptual level, however, the relationship is not totally circular. While the perceptions of the business environment in general (often formed by the actual experiences of dealing with the regulatory institutions) may precipitate the decision to join business associations, it is not the membership per se, but rather the quality and extent of member services that might alter the managerial experience of complying with the rules and regulations. Thus, the feedback effect is conditional on the actual ability of business associations to reduce the costs of regulatory compliance.
associations are less likely to report bureaucratic extortion, less aware of the current bribe schedule, and believe that bribe amounts are significantly lower than reported by nonmembers. However, they are more likely to report higher levels of bribery in their environment. How does one make sense of these contradictory perceptions?

[Table 1]

The problem with using the individual-level measures of regulatory burden is that we do not know when a firm joined an association and whether its perceptions of regulatory burden were formed before or after that event. It would be logical to expect that at least some individual-level measures of regulatory burden reflect a firm's membership status, making them the outcome, rather than the causal factors. Some correlations in Table 1 reflect this reverse causal link between associational membership and bureaucratic environment, mediated by particularistic member benefits provided by associations. The positive relationship between organizational membership and managerial time spent on dealing with regulations, for instance, squares well with the incentive-driven membership theory: the information-sharing, training, and consultative functions of business associations are targeted at enterprise managers, making them more involved (and thus spending more time) in ensuring regulatory compliance. The observations that members of business associations find it easier to obtain information about regulations, see tax administration as less problematic, and on average pay fewer bribes are also consistent with the idea that particularistic benefits provided by associations help enterprises navigate through regulatory regimes and make them more immune to bureaucratic extortion.

Another methodologically relevant point is the difference in wording between questions in groups A and B, Table 1. Because of the sensitivity of corruption (its illegality and social stigma), all corruption-related questions in the BEEPS survey refer to experiences of “firms like
yours,” rather than ask for the first-person response. The survey questions about regulatory environment, on the other hand, target the individual experiences of interviewed firm managers. Corruption-related questions, therefore, solicit impressionistic responses that rely on beliefs about corruption. Such questions are more likely to gauge the overall bureaucratic climate as perceived by industry practitioners. In contrast, questions about regulatory environment target a firm’s specific experiences. The differences between these impressionistic and experiential categories are fundamental: the former reflect beliefs while the latter the actual practices surrounding regulatory and bureaucratic environment. It is logical to expect that while the impressionistic, belief-based responses are more likely to capture the overall bureaucratic climate experienced by members and nonmembers alike, the experience-based instruments are more likely to suffer from the feedback effect of member benefits on the business environment and capture the outcome, rather than the cause of membership.

Distinguishing between the aggregate-level measures of regulatory pressure and the experience of individual firms offers a way out of the endogeneity problem. In evaluating the effects of regulatory pressures on organizational membership, this paper uses the aggregate-level rather than individual-level data on the severity of business regulation. In what follows, the stringency of regulatory regimes is operationalized by the Wall Street Journal and the Heritage Foundation index of business freedom (ranges from 0 to 100, with higher scores corresponding to more business freedom). The expert-ratings are not subject to the feedback effect of member-specific benefits provided by business associations, and unlike the individual-level instruments, capture “objective” cost of regulatory compliance.

To test Hypothesis 2, postulating a positive relationship between bureaucratic graft and firms’ propensity to join associations, I operationalize corruption in terms of its reported
frequency. This allows capturing a more general, non-monetary disutility of corruption. The
frequency of firms’ encounters with bureaucratic graft is measured over a range of regulatory,
law enforcement, and public service domains, including access to communications and public
utilities, licensing and permits, tax collection, government contract allocation, customs and court
procedures, and mechanisms of industry input into political and bureaucratic rule-making (See
Appendix B for the exact question wording). The question asks to report on the experience of
“firms like yours” explicitly soliciting responses based on the overall beliefs about business
environment; thus, of all the survey instruments, it would be least likely to suffer from a
feedback effect of associational membership. By using this instrument to capture bureaucratic
corruption on the objective (rather than subjective, experience-based) level, this analysis makes
an attempt to minimize the feedback effect of associational, corruption-targeted member
benefits. Additional treatments of the endogeneity problem are introduced later in the paper.

To ensure that the results are not construct-dependent, I use alternative measures based
on other instruments. Corruption 2 ranges from one to six and is based on the survey question
about how often “firms in your line of business have to pay irregular additional payments/gifts to
get things done with regard to taxes, licenses, regulations, services, etc”. The 2002 and 2005
surveys expand the number of categories for which corruption can be reported, to include
environmental, fire, and occupational health and safety inspections. The 1999 survey does not
specify these categories but instead invites respondents to rate “other” regulatory spheres.
Corruption 3 variable includes these additional categories.

With respect to Hypothesis 3, suggesting that the anticorruption efforts that increase the
costs or certainty of punishment for corrupt bureaucrats and/or business people should have
differential effects under intrusive and liberal regulatory regimes, the model includes an
interaction between country-level anticorruption measures and business freedom. Since the control of corruption is defined in terms of the state policy and as a property of the legal system, country-level measures are most appropriate. Corruption Perception Index (CPI) developed by Transparency International is well suited to serve as an indicator of the central government’s effort to combat corruption. Unlike microlevel, perception-based measures of corruption that reflect local aspects of corrupt behavior, CPI captures the overall “cleanness of the government.”

Firm-level and Country-level Controls

A number of firm and sector characteristics are believed to make some enterprises more likely to overcome the problems of collective action involved in forming business associations. The following statistical analysis controls for the type of ownership, firm origins, size, longevity, and asset specificity. Dummy variables for state-owned firms and foreign ownership are introduced to capture the ownership effects. The size is captured by a categorical variable based on the number of full-time employees. The date of firm incorporation and the dummy for de novo firms capture the effects of past experiences under state socialism and long-lasting relations with the state agencies. Asset specificity is captured by an ordinal scale variable ranging from 1 to 8. This variable reflects a priori assumptions about recourse specificity in different economic sectors distinguishing among extractive and construction industries, manufacturing, infrastructure and utilities, trade, business and personal services, and finance. To account for possible political and economic effects, the statistical analysis incorporates measures of political freedom (Freedom House political rights and civil liberties rating) and wealth (per capita GDP). Summary statistics for the aggregate- and firm-level measures are available in Appendix C.

Results of Statistical Analysis

The base model for investigating the effects of regulatory environment on firms’
decisions to join business associations is a logistic regression of the following form:

\[
\text{Logit[Pr}(Y_{iji} = 1)] = \beta_0 + \beta_1(BusFreedom)_{ij} + \beta_2(CPI)_{ij} + \beta_3(CPI \times BusFreedom)_{ij} + \\
\beta_4(Corruption)_{ij} + \beta_5(FirmSize)_{ij} + \beta_6(Foreign)_{ij} + \beta_7(State)_{ij} + \beta_8(Year)_{ij} + \beta_9(DeNovo)_{ij} + \\
\beta_{10}(\ln GDP\text{per capita})_{ij} + \beta_{11}(FH)_{ij} + \beta_{12}(\text{Specificity})_{ij} + u_{iji}
\]

where \( i = 1, \ldots, 17,776 \) are firms across \( j = 1, \ldots, 27 \) countries and \( t = 1—3 \) rounds of survey.

\( Pr(Y_{iji} = 1) \) is the probability that a firm is a member in at least one business association. Country-level sampling weights are used to correct for imperfect randomization in BEEPS sampling.

Results of the logistic regression are reported in Table 2, Column 1. Marginal effects can be found in Table 3.\(^\text{17} \)

[Table 2]

The negative coefficient on Business Freedom variable is consistent with Hypothesis 1 stating that heavy state involvement in the economy suppresses organizational development. When control of corruption is set at zero, the marginal effect of one unit increase of Business Freedom on the probability of membership is given by .094. The change in Business Freedom from its minimum to the maximum decreases the probability of membership by .748 points. The effects however should be interpreted in connection with the interactive term.

[Table 3]

The estimates confirm the key hypothesis regarding the effects of regulatory and bureaucratic environment. Controlling for the influence of other variables, the primary firm-level measure of corruption is positively associated with group formation. Such an effect is statistically significant at the conventional level. When corruption changes from its minimum to the maximum value, the probability of membership increases by .262 points. To check for possible interaction effects between corruption and regulatory environment, I also included an

\(^\text{17} \) These results hold when I estimate the 2000, 2003, and 2005 data separately and divide the sample into the EU member/applicant and nonmember/applicant countries.
interactive term between these two variables (regression results are omitted). Figure 3 shows predicted probabilities from such a regression. Note that the cost of corruption has positive effects under different regulatory regimes, which is consistent with model predictions.

Although the coefficient on CPI index is negative, the interaction term has a positive and significant coefficient. Because both CPI and Business Freedom are continuous variables, interpretation of interaction effects is not straightforward. Following Norton, Wang, and Ai (Norton, Wang, and Ai 2004) advice, Figure 2 shows interaction effects and their significance. It can be seen that the joint effects of corruption control and regulatory pressure have a curvilinear effect on membership. For testing Hypothesis 3, however, we are more interested in a separate conditional effect of CPI. Figure 3 graphs predicted probability of membership against CPI for different levels of Business Freedom. Consistent with Hypothesis 3, control of corruption has a negative effect on membership for low values of Business Freedom (intrusive regulatory regimes). At the higher levels of Business Freedom (less intrusive regulation) effective anticorruption measures have a positive effect on membership in business associations.

[Figure 2]

The control variables have the expected statistically significant effects on the firms’ propensity to organize. Foreign ownership, resource specificity, and the level of development have a positive impact on membership, while enterprise age, de novo status, and state ownership make firms less likely to join. The Freedom House score (higher values correspond to fewer political freedoms) has a negative effect, supporting the intuition that participation should be higher in democratic countries.

[Figure 3]

Logistic model, however, is not well suited for the simultaneous inclusion of the firm-
and country-level variables. *Within*-country observations are not independent from each other; neither are the country-level measurements that were taken at three different points in time. Pooling firm observations across twenty-seven countries and three installments of survey assumes homogeneity among firms in different countries and across time and is likely to suffer from the specification (omitted variables) problem. To account for the hierarchical structure of the data, where observations belong to the country and survey groups, I use hierarchical random-effect estimation. 18 I estimate variance component models of the following form:

\[ Y_{ij} = \alpha + \sum \beta_i X_{kij} + u_i + e_{ij} \] 19

The results of estimating the country/time random effects (RE) hierarchical model are summarized in Column 2, Table 2. The coefficients on the corruption, business freedom, and corruption control variables and their interaction retain their sign and statistical significance. The odds of membership for one unit change in regulation, corruption, and corruption control variables are given by \( \exp(\beta_1) = .912 \), \( \exp(\beta_2) = .353 \), and \( \exp(\beta_4) = 1.221 \), respectively. The interaction effects are statistically significant and the magnitude of regression coefficients is similar to the logistic regression. 20 Control variables behave similarly to the Logit estimates, with the exception of firm size that becomes significant (in the expected direction) and GDP per capita that loses its significance. Taking into account the difficulty of measuring corruption (and the possible sensitivity of findings to the specific measures used), I re-estimate the RE model with alternative instruments. Column 3 summarizes the results for the *Corruption 2* variable

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18 For issues involved in estimating models for discreet-response data, see Hsiao (Hsiao 2003) and Baltagi (Baltagi 2005).
19 This is a random intercept specification. See Raudenbush & Bryk (Raudenbush and Bryk 2002) and Luke (Luke 2004) for details on estimation. The estimates of random intercept and random slope models of the following form: \( Y_{ij} = \alpha + \sum \beta_i X_{kij} + u_{ij} + u_t(Country) + u_s(Time) + e_{ij} \) are not different from the ones reported for the random slope specification. Since slope estimates are not of interest, I omit these models here.
20 Marginal effects are not estimated for the hierarchical models because random effects are stochastic and are obtained postestimation. Thus they should not be included in estimating error terms of marginal effects. Since random effects are part of the model along with other control variables, there is no meaningful way to hold these constant at certain values while estimating predicted probabilities.
described earlier. The positive effect of corruption on associational membership is robust to alternative measurements.

As discussed earlier, the individual-level measure of corruption used in this analysis is potentially endogenous to associational membership. Since the firm-level analysis uses perception-based measures of corruption, the same explanatory factors may influence both the membership in associations and the perception of the business environment. This is a plausible scenario, because the business environment is rather different for firms of different characteristics. One could, for instance, hypothesize that members of business associations, on average, face greater corruption pressures. Or, participation in associations may increase a firm’s awareness of corruption. Unlike other explanatory variables of interest (such as regulatory pressure and control of corruption), whose exogeneity is ensured through the use of aggregate data, the problem of an endogenous relationship is eminent in the case of corruption perceptions.

To account for the possible endogeneity of the perception-based corruption variable, I estimate a two-stage least squares regression model. This single-equation estimator instruments corruption with three additional variables that measure the predictability of regulations, expected value of bribe for securing public contracts, and stability of bribe schedule. These variables are correlated with corruption \( r = -.1, .5, \) and .4\) but not with associational membership. The results of the second-stage estimation are reported in Table 2, Column 4. Column 5 also reports the results of an instrumental-variable probit model. In both cases, the instrumented corruption variable has a positive and statistically significant effect on membership in business associations. The Durbin endogeneity statistics and Wald tests of exogeneity \( \rho = 0 \), however, are not significant ruling out the endogeneity. I conclude that corruption is exogenous to associational
membership and the hierarchical models are appropriate statistical methods. Further discussions of this issue are placed in Appendix D.

The statistical tests developed above reveal that business associations’ membership is statistically related to characteristics of the regulatory environment when controlling for other factors, such as country-level and time effects, sectoral differences, enterprise characteristics, and macroeconomic and political factors. The results of applying alternative statistical techniques and different model specifications show that the severity of regulatory pressure has a consistent negative effect on membership. These results also are strongly consistent with Hypothesis 1, which links associational formation and survival to the less restrictive regulatory regimes that make it easier for associations to provide meaningful regulatory relief and attract members. The results support Hypothesis 2, stating that as instances of corruption increase, firms become more likely to choose to join associations. The empirical investigation reveals a positive statistically and substantively significant relationship between perceived frequency of corruption on the one hand, and firms’ likelihood of being a member of business associations on the other. In addition, corruption-limiting measures make firms less likely to participate in business associations in costly regulatory regimes but more likely to participate in a liberal regulatory environment. This supports the intuition behind Hypothesis 3.

**Summary and Conclusions**

This paper proposed the defensive organization argument linking participation in business associations with firms’ responses to intrusive regulatory regimes and the corrupt enforcement mechanisms. In this formulation, associations attract firms by providing member-specific regulatory relief. Business associations, therefore, can be seen as a private mechanism of selective defense against costly regulations and corrupt enforcement. They can help reduce the
regulatory burden through a form of selective benefits. These targeted member-specific services allow the firms to escape the pitfalls of the collective action problem. The paper formalized the argument and arrived at predictions that, other things being equal, business associations should find it easier to organize firms in an environment marked by pervasive bureaucratic corruption. Another prediction is that more intrusive regulatory regimes, in fact, should make it harder for associations to form and provide meaningful regulatory relief. I also expected that effective enforcement of anticorruption measures should have differential effects under different regulatory regimes: it may reduce membership in business associations under pervasive regulations, but should increase participation in more liberal regulatory settings. The statistical analysis of cross-national survey data on 17,776 firms in twenty-six countries of Eastern Europe and the former USSR, as well as of the aggregate socioeconomic indicators, supports these hypotheses.

The most important findings of this paper concern the effects of state regulatory environment. Such an environment, in many postcommunist countries, is characterized by extensive state intervention as well as by administrative corruption and extortion. The statistical tests presented in this paper support the overall logic of the defensive organization argument: controlling for a number of firm-, industry-, and country-specific factors implicated in successful solutions to the collective action problem, features of regulatory regimes emerge as strong predictors of business participation in associations. The data are congruent with the notion that business associations emerge and expand their membership in response to the state’s failure to provide a beneficial and predictable regulatory environment. The analysis established that costly regulatory environment has a negative effect on membership in business associations, while the failure to control systemic corruption coupled with pervasive regulations impedes participation.
Firm-level indicators of low-level bureaucratic corruption have a positive effect on membership. This suggests that an interesting pattern of relationships between economic agents and state structures is emerging in the postcommunist context. Higher levels of bureaucratic corruption in transitional countries stimulate collective action on the part of postcommunist firms, while restrictive regulatory regimes suppress the formation of business associations.

These findings have interesting implications. Although a large body of literature on business–state interaction contends that interest groups make claims on the state and seek protection from market forces (Olson 1965; Stigler 1971; Peltzman 1976; Grossman and Helpman 1994; Groseclose and Snyder 1996; Rose-Ackerman 1999), the results of this paper suggest that business associations in the postcommunist setting primarily protect firms against the state. This is not to say that postcommunist businesses do not engage in collusion and rent seeking. However, conspiracy against the public does not seem to be the primary motivation behind the formation of business associations. Symptomatically, lobbying has been ranked the least beneficiary of all services provided by business associations to their members (World Bank 1999-2005). The notion that postcommunist business associations develop to counter regulatory intervention and when regulatory enforcement is poor collaborates with the emerging literature that attributes to associations benign motives and positive economical-beneficial outcomes (Recanatini and Ryterman 2001; Campos and Giovannoni 2005; Pyle 2006; Nugent and Sukiassyan 2008). This stands in contrast to a large body of literature on the pernicious impact of interest groups.
REFERENCES


Figure 1. Strategic Space in the Regulatory Compliance Game.
Figure 2. Interaction Effect of Corruption Control and Regulatory Regimes.
Figure 3. Effects of Corruption Control and Corruption in Different Regulatory Regimes.
Table 1

Bivariate and Partial Correlations between Individual-Level Measures of Regulatory and Bureaucratic Environment and Membership in Business Associations

<table>
<thead>
<tr>
<th>A. Regulatory Environment</th>
<th>Bivariate Correlation</th>
<th>Partial Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information on the laws and regulations affecting my firm is easy to obtain.</td>
<td>0.0876***</td>
<td>0.0992***</td>
</tr>
<tr>
<td>Interpretations of regulations affecting my firm are consistent and predictable.</td>
<td>0.0111</td>
<td>-0.0298*</td>
</tr>
<tr>
<td>Tax regulations/administration are problematic for operation and growth of my business.</td>
<td>-0.0473***</td>
<td>-0.0454***</td>
</tr>
<tr>
<td>On a four-point scale, how problematic are the following for the operation and growth of your business: business licensing, customs/foreign trade regulations in your country, labor regulations, foreign currency/exchange regulations, environmental regulations, fire/safety regulations, tax regulations/administration?</td>
<td>0.0470***</td>
<td>0.0735***</td>
</tr>
<tr>
<td>Percentage of senior management’s time per year spent in dealing with government officials about the application and interpretation of laws and regulations.</td>
<td>0.0254***</td>
<td>0.0365**</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B. Bureaucratic Corruption</th>
<th>Bivariate Correlation</th>
<th>Partial Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>It is common for firms in my line of business to have to pay some irregular “additional payments” to public officials to get things done.</td>
<td>-0.0306***</td>
<td>-0.0264</td>
</tr>
<tr>
<td>Firms in my line of business usually know in advance about how much this “additional payment” is.</td>
<td>-0.0304***</td>
<td>-0.0103</td>
</tr>
<tr>
<td>On average, what percent of revenues do firms like yours typically pay per annum in unofficial payments to public officials?</td>
<td>-0.0640***</td>
<td>-0.0594***</td>
</tr>
<tr>
<td>How often do firms like yours nowadays need to make extra, unofficial payments to public officials for any of the following: to get connected to public services, electricity, and telephone; to get licenses and permits; to deal with taxes and tax collection; to gain government contracts; when dealing with customs/imports; when dealing with courts; to influence the content of new laws, decrees, or regulations; other?</td>
<td>0.0268***</td>
<td>0.029*</td>
</tr>
<tr>
<td>When firms in your industry do business with the government, how much of the contract value would they typically offer in addition to official payments to secure the contract?</td>
<td>-0.0082</td>
<td>0.0101</td>
</tr>
</tbody>
</table>

Note: * = p < .05, ** = p < .01, *** = p < .001; two-tailed significance test.
Table 2
Regression Estimates

<table>
<thead>
<tr>
<th></th>
<th>1 Logistic regression</th>
<th>2 Country/Time RE Logit</th>
<th>3 Country/Time RE Logit (Corruption 2)</th>
<th>4 Instrumental variable 2SLS</th>
<th>5 Probit with endogenous regressor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Freedom</td>
<td>-.101</td>
<td>.006</td>
<td>-.092</td>
<td>.030</td>
<td>-.094</td>
</tr>
<tr>
<td>CPI</td>
<td>-.940</td>
<td>.096</td>
<td>-1.040</td>
<td>.523</td>
<td>-1.059</td>
</tr>
<tr>
<td>CPI*Bus Freedom</td>
<td>.019</td>
<td>.001</td>
<td>.019</td>
<td>.007</td>
<td>.019</td>
</tr>
<tr>
<td>Corruption</td>
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<td>.003</td>
<td>.020</td>
<td>.003</td>
<td>.064</td>
</tr>
<tr>
<td>Firm Size</td>
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<td>.013</td>
<td>.313</td>
<td>.021</td>
<td>.323</td>
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<tr>
<td>Foreign</td>
<td>.574</td>
<td>.048</td>
<td>.461</td>
<td>.052</td>
<td>.472</td>
</tr>
<tr>
<td>State</td>
<td>-.208</td>
<td>.053</td>
<td>-.394</td>
<td>.059</td>
<td>-.403</td>
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<tr>
<td>Year</td>
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<td>.001</td>
<td>-.011</td>
<td>.001</td>
<td>-.011</td>
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<tr>
<td>De novo</td>
<td>-.445</td>
<td>.042</td>
<td>-.420</td>
<td>.045</td>
<td>-.403</td>
</tr>
<tr>
<td>Ln (GDP/capita)</td>
<td>.119</td>
<td>.029</td>
<td>.263</td>
<td>.175</td>
<td>.263</td>
</tr>
<tr>
<td>Freedom House</td>
<td>-.275</td>
<td>.017</td>
<td>-.235</td>
<td>.101</td>
<td>-.246</td>
</tr>
<tr>
<td>Specificity</td>
<td>.071</td>
<td>.009</td>
<td>.052</td>
<td>.010</td>
<td>.055</td>
</tr>
<tr>
<td>Constant</td>
<td>27.834</td>
<td>2.162</td>
<td>23.10</td>
<td>3.315</td>
<td>23.714</td>
</tr>
</tbody>
</table>

N: 17776
Log likelihood: -10603.571
χ²: 1855.62
df: 12
# groups: 1

Note: Dependent variable: Pr (membership = 1). Statistically significant coefficients are in bold.
Table 3

Marginal Effects of Xs on Y

<table>
<thead>
<tr>
<th></th>
<th>Logit</th>
<th>Probit with endogenous regressor</th>
<th>Instrumental variable 2SLS</th>
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<tr>
<td></td>
<td>dy/dx</td>
<td>Std. Err.</td>
<td>dy/dx</td>
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<tr>
<td>Business Freedom</td>
<td>-.094</td>
<td>.030</td>
<td>-.063</td>
</tr>
<tr>
<td>CPI</td>
<td>-1.059</td>
<td>.523</td>
<td>-1.059</td>
</tr>
<tr>
<td>CPI*Bus Freedom</td>
<td>.019</td>
<td>.007</td>
<td>.013</td>
</tr>
<tr>
<td>Corruption</td>
<td>.064</td>
<td>.013</td>
<td>.011</td>
</tr>
<tr>
<td>Firm Size</td>
<td>.323</td>
<td>.022</td>
<td>.059</td>
</tr>
<tr>
<td>Foreign</td>
<td>.472</td>
<td>.053</td>
<td>.363</td>
</tr>
<tr>
<td>State</td>
<td>-.403</td>
<td>.060</td>
<td>-.220</td>
</tr>
<tr>
<td>Year</td>
<td>-.011</td>
<td>.001</td>
<td>-.008</td>
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<tr>
<td>De novo</td>
<td>-.403</td>
<td>.046</td>
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<tr>
<td>Ln (GDP/capita)</td>
<td>.263</td>
<td>.176</td>
<td>.052</td>
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<tr>
<td>Freedom House</td>
<td>-.246</td>
<td>.101</td>
<td>-.168</td>
</tr>
<tr>
<td>Specificity</td>
<td>.055</td>
<td>.010</td>
<td>.044</td>
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ONLINE APPENDIX A: Business Environment Survey Data

BEEPS is a survey of firm owners and managers in twenty-seven transitional countries of Eastern Europe, Eurasia, and Turkey. Three installments of the survey were conducted in 1999, 2002, and 2005. BEEP examines a wide range of interactions between firms and the state. The 1999 survey covered 4,104 firms in twenty-three postcommunist countries (Albania, Armenia, Azerbaijan, Belarus, Bosnia, Republika Srpska, Bulgaria, Croatia, Czech Republic, Estonia, Macedonia, Georgia, Hungary, Kazakhstan, Kyrgyz Republic, Latvia, Lithuania, Moldova, Poland, Romania, Russia, Slovak Republic, Slovenia, Ukraine, and Uzbekistan) and Turkey. A total of 6,667 firms were surveyed in 2002 and 9,655 enterprises in 2005. These were located in twenty-seven countries, the BEEPS 1999 countries plus Serbia and Montenegro, and Tajikistan. The firms participating in the survey represent different sectors and industries and are of different size and ownership type. Based on face-to-face interviews with firm managers and owners, BEEPS was designed to generate comparative measurements in such areas as corruption, state capture, lobbying, and quality of business environment. Complete data set and questionnaires are available at http://www.ebrd.com/country/sector/econo/surveys/beeps.htm.

While on the country level, BEEPS was designed as a self-weighted sample, enterprise quotas for large, state-owned, and foreign enterprises were imposed to meet the research objectives of the conducting institution. The sample size of various parameters resulting from the self-weighted universe was often outside the BEEPS minimum quotas for state-owned, foreign, and large firms. In cases where quotas were applied, latitudinal parameters (i.e., subsector, size, or location) had to be re-weighted with the revised total samples, but the proportions of the original self-weighted universe were preserved. As a result, the representativeness of the sample to the population of firms was distorted. Therefore large, state-, and foreign-owned enterprises
are overrepresented in respect to the population of enterprises. Additionally, firms in small
countries have the same probability weight as the firms in larger countries. See discussion on
BEEPS sampling at:

http://siteresources.worldbank.org/INTECAREGTOPANTCOR/Resources/beeps05r.pdf

Table A.

Participation in Business Associations (Percentage of Respondents)

<table>
<thead>
<tr>
<th>Country</th>
<th>1999</th>
<th>2002</th>
<th>2005</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albania</td>
<td>28</td>
<td>85</td>
<td>88</td>
<td>69</td>
</tr>
<tr>
<td>Bosnia</td>
<td>21</td>
<td>53</td>
<td>52</td>
<td>45</td>
</tr>
<tr>
<td>Macedonia</td>
<td>21</td>
<td>32</td>
<td>41</td>
<td>32</td>
</tr>
<tr>
<td>Latvia</td>
<td>49</td>
<td>28</td>
<td>26</td>
<td>34</td>
</tr>
<tr>
<td>Armenia</td>
<td>19</td>
<td>29</td>
<td>32</td>
<td>29</td>
</tr>
<tr>
<td>Azerbaijan</td>
<td>6</td>
<td>19</td>
<td>19</td>
<td>16</td>
</tr>
<tr>
<td>Belarus</td>
<td>13</td>
<td>17</td>
<td>19</td>
<td>17</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>26</td>
<td>52</td>
<td>43</td>
<td>43</td>
</tr>
<tr>
<td>Croatia</td>
<td>55</td>
<td>77</td>
<td>82</td>
<td>74</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>20</td>
<td>30</td>
<td>21</td>
<td>24</td>
</tr>
<tr>
<td>Estonia</td>
<td>36</td>
<td>48</td>
<td>48</td>
<td>45</td>
</tr>
<tr>
<td>Georgia</td>
<td>9</td>
<td>24</td>
<td>28</td>
<td>22</td>
</tr>
<tr>
<td>Hungary</td>
<td>77</td>
<td>60</td>
<td>54</td>
<td>59</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>16</td>
<td>25</td>
<td>20</td>
<td>21</td>
</tr>
<tr>
<td>Kyrgyzstan</td>
<td>8</td>
<td>21</td>
<td>33</td>
<td>22</td>
</tr>
<tr>
<td>Lithuania</td>
<td>8</td>
<td>40</td>
<td>32</td>
<td>30</td>
</tr>
<tr>
<td>Moldova</td>
<td>15</td>
<td>36</td>
<td>28</td>
<td>27</td>
</tr>
<tr>
<td>Poland</td>
<td>25</td>
<td>37</td>
<td>30</td>
<td>32</td>
</tr>
<tr>
<td>Romania</td>
<td>17</td>
<td>55</td>
<td>54</td>
<td>50</td>
</tr>
<tr>
<td>Russia</td>
<td>16</td>
<td>24</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Slovakia</td>
<td>15</td>
<td>39</td>
<td>34</td>
<td>31</td>
</tr>
<tr>
<td>Slovenia</td>
<td>66</td>
<td>96</td>
<td>91</td>
<td>87</td>
</tr>
<tr>
<td>Ukraine</td>
<td>15</td>
<td>24</td>
<td>25</td>
<td>23</td>
</tr>
<tr>
<td>Uzbekistan</td>
<td>21</td>
<td>51</td>
<td>34</td>
<td>38</td>
</tr>
<tr>
<td>Serbia</td>
<td>...</td>
<td>52</td>
<td>58</td>
<td>55</td>
</tr>
<tr>
<td>Tajikistan</td>
<td>...</td>
<td>10</td>
<td>26</td>
<td>18</td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>39</td>
<td>37</td>
<td>35</td>
</tr>
</tbody>
</table>

are calculated for the national self-weighted samples. The last column reports unweighted
averages across three surveys.
ONLINE APPENDIX B: Measurement of Bureaucratic Corruption

The primary measure of bureaucratic corruption is based on BEEPS survey question that reads: *How often do firms like yours nowadays need to make extra, unofficial payments to public officials for any of the following: 1) to get connected to public services, 2) to get licenses and permits, 3) to deal with taxes and tax collection, 4) to gain government contracts, 5) when dealing with customs/imports, 6) when dealing with courts, or 7) to influence the contents of new laws, decrees, or regulations directly affecting your business?*

Responses over these seven distinct domains were added together, resulting in a forty-two-point scale, with a larger number corresponding to a more frequent occurrence of corruption. Factor analysis on the above-mentioned aspects of corruption suggests that they capture the same underlying phenomenon. (Results can be found in Appendix C.) Constructed in such a manner, the variable reflects businesses’ perceptions of the extent of various forms of corruption in their immediate environment. Unlike other measures that operationalize corruption in terms of specific characteristics that might not reflect cross-country differences in the venues and methods of corruption, this measure provides greater flexibility and, on average, is less prone to error.

Some of the areas of corruption reflected in this battery of questions—e.g., public services, licenses, tax collection, customs—are unambiguous attributes of low-level bureaucratic corruption; others are not so easily distinguishable from grand political corruption. For instance, in the area of government contracts, depending on the types of businesses and size of the contracted project, higher-level political authorities might be implicated. Still, a vast number of services contracted by the state institutions, such as garbage collection, transportation, landscaping, construction, repair, and others, are implemented locally. Thus, in the majority of cases of contracting with the local entities, one should expect instances of bureaucratic
corruption rather than high-level political corruption. A similar argument could be extended to court of law corruption. The majority of postcommunist firms, due to their size and geographic location away from capital cities, are likely to deal with the local courts. Although linkages to higher-level political authorities might be suspected in corrupt court decisions, local bureaucrats working in the judicial sphere are likely to be at the center of the corrupt deals.

Perhaps most contentious is the sphere of influence on the content of laws, rules, and regulations. Classifying this question as a measure of administrative corruption depends on whether one believes that firms are entitled to exert such an influence on the government via legitimate means and what institutions should be the subject of such influence. If rules and regulations affecting firms are devised by high political authorities only, this question clearly captures the extent of political corruption. If, on the other hand, business regulations are formulated by bureaucrats, the question is indicative of bureaucratic corruption. One cannot give a definite answer to this question without a prior comprehensive analysis of regulatory regimes across postcommunist countries. This aspect, however, is beyond the scope of this paper. Still, a number of accounts point to the state bureaucracy rather than to high-level public officials as the driving force behind the implementation of the “hard” institutional reforms shaping the rules and regulations governing postcommunist businesses (Webster 2002).
ONLINE APPENDIX C: Descriptive Statistics

Table C1

Firm-level Variables: Summary Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Range</th>
<th>Count</th>
<th>Mean</th>
<th>St. Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Association Member</td>
<td>Binary(0,1)</td>
<td>12,456</td>
<td>6,748</td>
<td>...</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Size</td>
<td>Ordinal Scale 1-8</td>
<td>...</td>
<td>1.940</td>
<td>1.397</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>Foreign</td>
<td>Binary (0,1)</td>
<td>16,593</td>
<td>2,605</td>
<td>...</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>State</td>
<td>Binary (0,1)</td>
<td>16,291</td>
<td>2,880</td>
<td>...</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Year</td>
<td>String</td>
<td>...</td>
<td>1988</td>
<td>18.168</td>
<td>1800</td>
<td>2001</td>
</tr>
<tr>
<td>De Novo</td>
<td>Binary (0,1)</td>
<td>8,434</td>
<td>10,770</td>
<td>...</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Specificity</td>
<td>Ordinal 1-8</td>
<td>...</td>
<td>3.663</td>
<td>1.890</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>Corruption</td>
<td>Ordinal 1-42</td>
<td>...</td>
<td>11.392</td>
<td>6.170</td>
<td>1</td>
<td>42</td>
</tr>
<tr>
<td>Corruption 2</td>
<td>Ordinal 1-6</td>
<td>...</td>
<td>2.541</td>
<td>1.516</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Corruption 3</td>
<td>Ordinal 1-60</td>
<td>...</td>
<td>15.385</td>
<td>8.435</td>
<td>1</td>
<td>60</td>
</tr>
</tbody>
</table>

Table C2

Aggregate-Level Variables: Sources and Descriptive Statistics

<table>
<thead>
<tr>
<th>Variable Name</th>
<th>Description</th>
<th>Source</th>
<th>Mean</th>
<th>St. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP</td>
<td>GDP per capita (USD), t-1</td>
<td>World Bank</td>
<td>3132</td>
<td>351</td>
</tr>
<tr>
<td>Business Freedom</td>
<td>Index of Business freedom (0-100), t-1</td>
<td>The Wall Street Journal &amp; the Heritage Foundation</td>
<td>53.54</td>
<td>7.19</td>
</tr>
<tr>
<td>Political Freedom</td>
<td>Political rights and civil liberties score (1 – 6), average, t-1</td>
<td>Freedom House</td>
<td>3.27</td>
<td>.20</td>
</tr>
<tr>
<td>CPI</td>
<td>Corruption Perception Index, (1–10), t-1</td>
<td>Transparency International</td>
<td>3.31</td>
<td>.14</td>
</tr>
</tbody>
</table>
ONLINE APPENDIX D: Statistical Treatment of Endogeneity

As in much social science, when it is impossible to implement an experimental research design that randomly assigns treatment to the subject population, this research faces the problem of endogeneity. Endogeneity usually becomes an issue when the dependent variable feeds back into the model, causing changes in the independent variables, or if one suspects a reverse causation. Another way to think about this problem is to imagine the interdependence among explanatory factors that might have a causal effect on each other. If this in fact is the case, the causal inference may be biased.

In the panel settings, endogeneity may additionally arise from the fact that unobserved country- or time-effects simultaneously influence the dependent and independent variables. When endogeneity is an issue, random effects (RE) models return biased estimates, because they assume exogeneity of all the independent variables, including the individual effects. In contrast, if the sources of endogeneity are constant within units (countries), fixed effect (FE) models are much better at accounting for endogeneity of all right-hand side variables and individual effects. In FE models, the within-transformation gets rid of the portion of the residual term correlated with the explanatory variables, and thus removes the bias. Such fixed-effect estimation is reported in Table D, Columns 1 and 2. These estimates assume that all variables are endogenous, or are caused by other variables in the model. The variables of interest are of the expected sign and statistically significant. Note, however, that none of the country-level variables can be estimated in the FE models.

One way to retain the country-invariant variables while taking advantage of the panel setting is the Hausman-Taylor estimation (1981) for endogenous regressors. This technique uses instruments that are based on the between- and within-variation of the strictly exogenous
parameters and takes advantage of the simultaneous inclusion of the country-invariant and varying regressors. The Hausman-Taylor estimator is of the following form:

\[ y_{ij} = X_{ij} \beta = Z_{ij} \gamma + \mu_{ij} + v_{ij}, \]

where \( Z \) is a vector of exogenous time-/country-invariant variables, and \( X = [X_1; X_2] \) is such that \( X_1 \) are endogenous and \( X_2 \) are exogenous time-/country-varying variables. For details see Baltagi (Baltagi 2005).

Columns 3 and 4 of Table D report the results of the Hausman-Taylor estimations that instrument two alternative measures of firm-level corruption. For two alternative measures of bureaucratic corruption, the reported estimated coefficients give the exogenous effect of corruption after accounting for the contemporaneous effect of membership on the firm-specific, perception-based corruption indicators. The effects remain positive and statistically significant, although substantively smaller than in RE models.
Table D

Endogenous Regressor Estimation

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FE Logit (Corruption)</td>
<td>FE Logit (Corruption Frequency)</td>
<td>Hausman-Taylor Instrumental Regression (Corruption)</td>
<td>Hausman-Taylor Instrumental Regression (Corruption Frequency)</td>
</tr>
<tr>
<td>B</td>
<td>St.E.</td>
<td>B</td>
<td>St.E.</td>
<td>B</td>
</tr>
<tr>
<td>Business Freedom</td>
<td></td>
<td></td>
<td>.021**</td>
<td>.007</td>
</tr>
<tr>
<td>CPI</td>
<td></td>
<td></td>
<td>-.184</td>
<td>.120</td>
</tr>
<tr>
<td>CPI*Bus Freedom</td>
<td></td>
<td></td>
<td>.004*</td>
<td>.002</td>
</tr>
<tr>
<td>Corruption</td>
<td></td>
<td>.019***</td>
<td>.003</td>
<td>.063***</td>
</tr>
<tr>
<td>Firm Size</td>
<td></td>
<td>.308***</td>
<td>.021</td>
<td>.319***</td>
</tr>
<tr>
<td>Foreign</td>
<td></td>
<td>.462***</td>
<td>.052</td>
<td>.473***</td>
</tr>
<tr>
<td>State</td>
<td></td>
<td>-.389***</td>
<td>.059</td>
<td>-.398***</td>
</tr>
<tr>
<td>Year</td>
<td></td>
<td>-.010***</td>
<td>.001</td>
<td>-.011***</td>
</tr>
<tr>
<td>De novo</td>
<td></td>
<td>-.424***</td>
<td>.045</td>
<td>-.405***</td>
</tr>
<tr>
<td>Ln (GDP/capita)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freedom House</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specificity</td>
<td></td>
<td>.052***</td>
<td>.010</td>
<td>.055***</td>
</tr>
<tr>
<td>Constant</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

N                  | 17878 | 17236 | 17776 | 17146 |
Log likelihood      | -9406.8434 | -9095.496 |   ... |       |
χ²                  | 861.11 | 833.09 | 917.20 | 884.55 |
df                  | 7     | 7     | 12    | 12    |
# group             | 77    | 77    | 76    | 76    |
σ_u                 |      |      | .193  | .197  |
ρ                   |      |      | .170  | .175  |

Note: Dependent variable: Pr (membership = 1). ** = p < .01, *** = p < .001 two-tailed significance test; ^ = p < .05 one-tailed significance test.